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APRIL 2002

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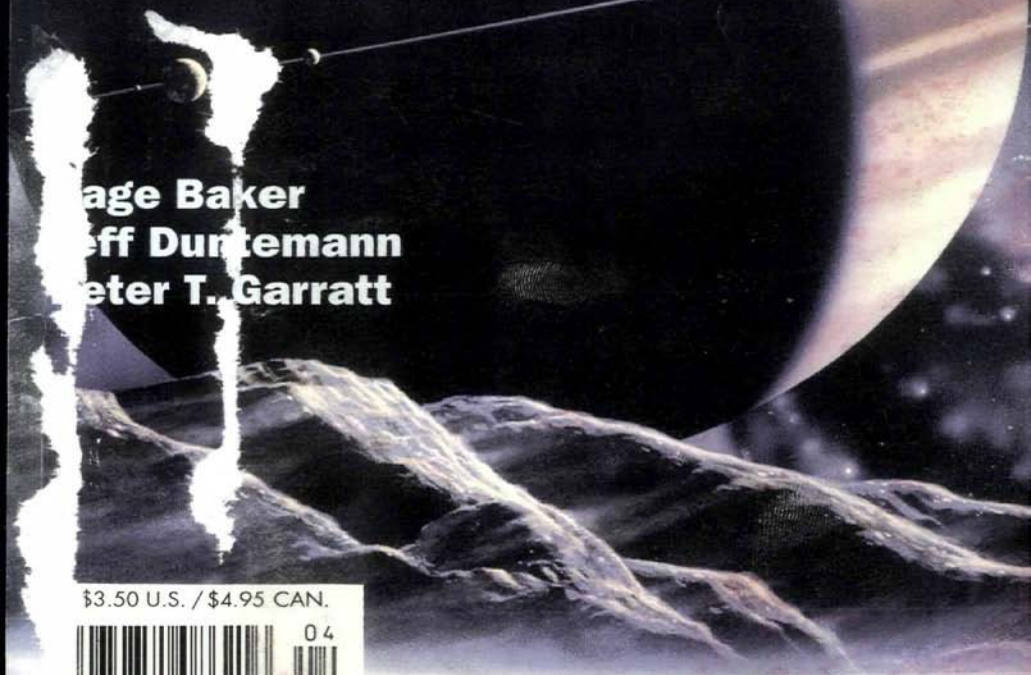

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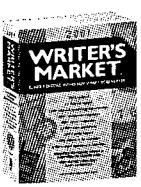

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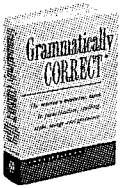

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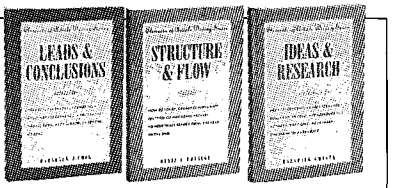

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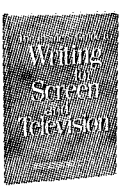

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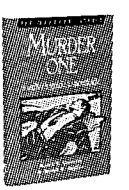

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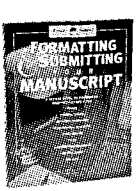

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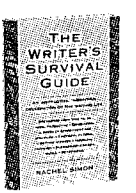

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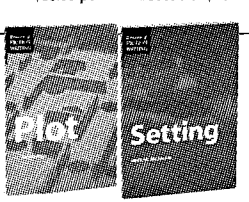

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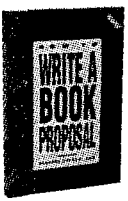

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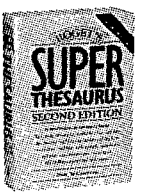

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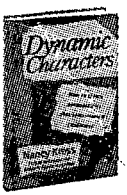

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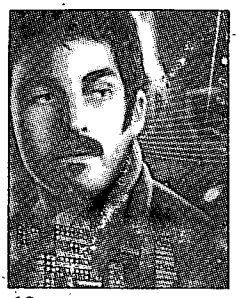

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e. I don't work in an office where ıy job would depend on my ability ness around with spreadsheets, up pie charts and graphs, use pro- ıms like Excel or whatever has ılaced Lotus 1 2 3, or exchange nplicated numerical forecasts h the company's Zurich office. All) is sit at home writing books and ries and columns like this, and only computer skills I need for t involve word-processing, which ıretty primitive stuff.

lo I have never fully made it into era of Windows. I am writing s right now on a quite functional)1 computer that doesn't even 'e a modem. MS-DOS is its oper- ng system, and a fairly ancient 'sion of MS-DOS at that. The rd-processing program I use is same one I've been using since 2, when in fact I *was* something pioneer in the use of such things writers, and it is so old that it's ompatible with any program d by anybody else. Which is all y by me: my professional needs met, I have lost the desire to ster a lot of complex new gad- ary skills, and so be it.

)f course, I've ventured a *little* into the brave new world of our ed civilization. There's no avoid- it; and, anyway, I find it tremen- sly useful to be connected to the ernet. I have another computer t has all the contemporary bells whistles on it, and I use it for e- il and for exploring the Web. I it quite a bit, actually. But I 't keep any files on it—nothing's files around, edit them, or do what- ever else it is you do with files. My files are on my old computer, which calls them "documents." And so, be- cause I don't have any daily need for modern software other than my In- ternet browser and the program that does my income tax for me, I still haven't picked up much sense of how Windows 98 works, or anything else, really, about the functioning of my Windows-based computer except how to turn it on and turn it off. When things get snarled up, I switch the thing off and reboot. That usual- ly works. When things get badly snarled up, I call a savvier friend and ask for advice. She can generally walk me through the problem. When things get immensely snarled up, as they did when a little virus difficulty turned up last year, I hire a profes- sional geek to unsnarl them for me.

If I were thirty-five or forty years old, such blithe lack of interest in maintaining my techno-skills would rightly be regarded as irresponsibil- ity on my part: I would be making myself unemployable by deliberate- ly cutting myself off, out of sheer in- dolence, from the technology-based society all around me. But I'm not thirty-five or forty years old. I'm in my late sixties; I've had a long and successful career and have little left in the way of ambition; and the last thing I want to be is employable right now. I don't *need* to be comput- er-savvy, and there are other things I'd rather be doing than learning a new version of Windows every two or three years.

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Of course, even in my self-imposed state of ignorance I still have to use a modern computer every day, and that means that problems will crop up, even as the day follows the night.

A few months ago, for example, I needed to print a page of e-mail, and I hit the little button that said "print," and nothing happened. I hit it again. Zilch. I tried to print a different document. Same lack of result. I checked to see if the printer cables were still plugged in. Yes. Everything normal, everything functioning perfectly, except the printer had stopped obeying the command that was supposed to make it do its thing.

Although I know next to nothing about the programs that operate my computer, I do know that if you click your "Start" button in the corner of the screen it will give you access to those programs. And so, in the hope that I would find something in Settings or Control Panel or Program Files or one of the other places of that sort that would enable me to turn my printer back on, I went clicking around until I did indeed find the icon that led me to my printer settings. Everything seemed pretty much normal there.

I did notice one odd thing: beside the name of my printer—my default printer, they call it—was an entry that said:

ABSOLUTELY BOGUS PRINTER DRIVER WPS

Here is where my attitude toward the world of professional computer programmers—a mixture of contempt and ignorance—did me in. I would not, you understand, buy a ticket to fly on Absolutely Bogus Airlines. I would not buy stock in Absolutely Bogus Enterprises, Inc. I would not accept a commission to write a short story for Absolutely

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Bogus Science Fiction Magazine. But it seemed perfectly plausible to me that in the computer world, where such nitwit terms as "Illegal Operation" and "Terminal Fatal Error" are routinely bandied about to describe trivial glitches, some geeky character would have bestowed the name of Absolutely Bogus Printer on the particular Hewlett-Packard model that I use. The fact that I had never noticed the Absolutely Bogus moniker before, on my previous visits to that Settings screen (while I was installing my printer software, for instance) did not immediately occur to me.

Because I took the Absolutely Bogus thing so calmly, I continued to look for the problem somewhere else—plugging and unplugging the printer and the computer several times, etc. Nothing worked. Finally, by way of cutting the Gordian knot, I simply deleted my printer software from the computer (not a complicated job even for me) and reinstalled the whole business from scratch. Surprise! The printer now was functional! And when I went looking for that Absolutely Bogus line, it was gone, and the name of my Hewlett-Packard printer was in its place. My simple-minded solution (chop the cockeyed tree down and plant a new one) had saved the day.

Where, though, had Absolutely Bogus come from? Had some jolly virus found its way into my computer? I have a virus shield on my computer, having learned the importance of that the hard way, and a quick interrogation of the virus checker told me that no viruses were present.

So I consulted my neighborhood computer maven, Carol Carr, who did some quick Internet research and sent me a link to a place called Computing.Net, where she had found a lengthy discussion of the Absolutely Bogus problem. Turns out it isn't a virus, exactly, and your virus checker won't detect it. It's a different kind of bug called an "Easter egg" in the trade that some excessively clever programmer had buried in Windows itself, perhaps, or Java, or in Word, or in some other little nook in somebody's software, and which, I suppose, gets passed around from computer to computer hitchhiking in attachments. It does no harm, particularly, except to knock out contact between your computer and your printer, and to stick in that little thumb-to-the-nose Absolutely Bogus line where your printer's name used to be.

One thing I learned from my Absolutely Bogus experience is that ignorance can sometimes be beneficial. Once it dawned on me that Absolutely Bogus Printer Driver was not a kosher name even in the computer world, I dealt with the problem in about ten minutes with my delete-and-reinstall tactic. Now, looking through the Absolutely Bogus chat stuff on Computing.Net, I saw how a properly hip computer guy would have done it. "The fix I used was to totally delete all modules that begin 'WPS' from my system." Huh? I would never have risked that, since I don't know what a WPS module is, or what harm it might do to delete one. The instructions continue, "The following 'WPS' names could not be erased or deleted until operating from a 'boot-from-clean-floppy': wpsapd.dll, wpsslp.dll, wpsslw.dll, wpsc1psm.dll, and wpsmon16.dll. Even though the Windows Printing System had been stopped in the tsr using the program manager, and the files had no visible protecting attributes, they could not be erased until booting outside the current windows session."

Okay. I'm not quite sure how to boot from a clean floppy, or where I would find one. I don't know what

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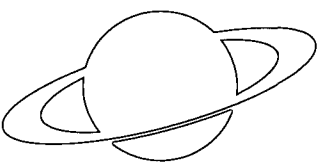

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the tsr is, or where to find the program manager. Even if I did, I would have faced the terrifying job of deleting my wpsapd.dll without knowing what it was. Because I understood none of that, I simply made use of the Uninstall option on my printer software and then plodded through the five or six steps of a new installation, while younger and more knowledgeable folk who had been hit by Absolutely Bogus were spending hours grimly uprooting wpspsw.dll and wpsapd.dll. Even so, Absolutely Bogus killed a couple of hours for me, from initiation of problem to final solution, that I would rather have spent doing almost anything else.

As for the guy who slipped the Absolutely Bogus egg into whatever program it was that found its way to me, I wish you a lengthy sojourn in the ninth circle of programmer hell. Your cleverness is misplaced; your pride in your mischievousness is a sin; you are a blight upon our society.

I am often uncomfortably aware, as I stand before a crowd of attentive and even reverent readers at some science-fiction convention, that the audience probably includes eight virus-writers per hundred attendees. There I am, the venerable creator of dozens of their favorite novels, droning on and on about the wondrous future that awaits us all, and there they are before me, a bunch of jackasses in ill-fitting jeans whose hobby it is to fill that future with hidden roadblocks.

I suppose virus-writers do serve a useful Darwinian function. Their misplaced and damnable ingenuity creates a need for counteringenuity that raises everybody's level of mental agility, even mine. Whenever I hit some computer problem that some smiling geek has loosed upon us, I'm compelled willy-nilly to cope with it somehow, and I do learn from the process.

On the other hand, the ancient computer I'm writing this on now, because it has no modem, is pretty much virus-proof so long as I refrain from putting a contaminated floppy into it, and you can bet that I strive to avoid doing that. I've used it for more than a decade, have written a whole trilogy on it and five or six other novels and I know not how many short stories, plus a column of this sort for *Asimov's* every month for the last seven years, and never once have I hit a key and had some jeering ninny's Absolutely Bogus creation pop onto my screen and stick out its tongue at me. As a good Darwinian myself, I should approve of the obstacles that the virus-writers set up for us, I guess. But in my heart of hearts I will go on pronouncing dark imprecations on their entire tribe. ❍

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On the Net

James Patrick Kelly

MICHAEL SWANWICK BY JAMES PATRICK KELLY

Bests

At the very first **Readercon** *<http://www.readercon.org/>* a writer pal of mine introduced himself by saying, "I'm Michael Swanwick, and with the possible exception of Gene Wolfe, I'm the best writer present today." While I may not be *Asimov's* most accomplished practitioner of fiction, I will assert that I, James Patrick Kelly, am the best damn Internet columnist ever to appear in this magazine.

Having typed that, I would be the first to acknowledge that my contributions here are by no means above reproach. The links I commend to your attention mostly work.

When they don't, it's because an eternity passes in the dot.com time stream between when I write this column and when you read it. Meanwhile the net continues to grow at an incredible rate. When I opened **Google** *<http://www.google.com/>* this morning, it informed me that it would be searching 1,387,529,000 web pages. I know I must be missing lots of good stuff. And recently I have observed myself offering opinions much more freely than when I first occupied this space. I sometimes fear that I may be slipping from reportage into pundithood. Luckily for us all, many of the folks who read this column are not shy about offering comments, critique, and suggestions.

Strange

I had a long and thoughtful response to a recent column from one Jed Hartman of Mountain View, California, who among his other accomplishments is senior fiction editor at one of our best new webzines, **Strange Horizons** *<http://www.strangehorizons.com/>*. I asked Jed for permission to share some of his comments and he agreed. He writes, ". . . in the 'Web Zines' column, you talk about online magazine archives as potentially becoming 'the place where yesterday's stories go to disappear forever.' I can certainly understand the concern—any archive that contains more than fifteen or twenty items can be pretty daunting, just like the stack of unread print magazines you compared it to. And yet, it seems to me a somewhat strange complaint, because without the archive, yesterday's stories are really gone forever. The choice isn't between an archive and some better way of keeping stories around; it's between an archive and no archive. It seems clear to me that having an online archive of published material is better (in terms of reader access to stories) than removing published material permanently as soon as it's no longer recent.

"And there are distinct advantages to online archives. For example, they can be searchable—our *SH* archive now allows you to search for authors, titles, phrases, and we're working on improving the archive-

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search function to look for keywords and categories.

"Also, archives can be indexed by the big search engines like Google and AltaVista. This seems to me to be an even bigger advantage than having a search function on the magazine's site. If Joe Random Websurfer wants to find stories by Canadian writer Ursula Pflug, for instance, he can type her name into a Google search box, and the first hit Google returns is her story in our archives."

Your columnist replies. Jed's points here are well taken, in particular with regard to turning up hits on the big search engines. But I'm still not sanguine about readers rooting diligently through on-line archives. *Strange Horizons* is about a year old and already has a fiction archive of some fifty stories. If, as we all hope, the site prospers, in five years the archive will contain two hundred and fifty stories and in ten years, five hundred stories. True, some writers may pull their work from the archives for publication elsewhere, but I can't imagine myself scrolling through screens and screens and screens, looking for stuff I missed. I guess what I'd like to see is some kind of organized archive-mining once our webzines mature, so that the editors pull stories they particularly loved back onto the front page, or perhaps package thematic collections, say of stories with dinosaurs or robots or people who get pushed out of airlocks, and put them where readers can easily rediscover them.

Believe me, I have nothing against archives. You will note, if you are reading this on the *Asimov's* website, that there is no archive of the best damn Internet column in the magazine. This is not a complaint, mind you, only an observation. I knew the rules going in and so have taken upon myself to create an "On the Net" archive at my own site. In fact, as I continue sharing reader reactions, I'll be pointing you at the source material. You might, for instance, want to read (or re-read) **Web Zines** <*http://www.jimkelly.net/pages/webzines.htm*>, first published in May of 2001.

Jed Hartman also took issue with my sweeping generalization that webzine editors seem to have a preference for shorter forms and cites all the novellas that have appeared on **SciFiction** <*http://www.scifi.com/scifiction/*>, edited by the excellent Ellen Datlow, as a counter example. I might also point you toward Keith Brooke's pioneering **Infinity Plus** <*http://www.infinityplus.co.uk/*>. However, he does admit that "there are plenty of people who don't like to read anything from a computer screen, but who are probably more willing to read shorter stories than longer ones. I'm personally willing to read a novel on my Palm handheld, but I know there's a wide range of attitudes about such things among readers. I suspect, though, that over the next ten to twenty years we'll see more and more people shifting toward reading online."

Jim again. Sure, when all the dinosaurs like me die off. In the meantime, I have a near term solution to the online reading conundrum: the yBook Reader (see below).

One last shot from Jed: "You had mentioned that *Strange Horizons* seems to have a preference for 'short, sharp shock' stories. It's true that we do regularly publish pieces under two thousand words, but we also regularly publish pieces between five thousand and six thousand words, which generally tend to have more depth and a slower pace and a bit less punch-at-the-end."

Of course, I get the last word. I'm glad for the chance to correct a misrepresentation. When I first visited

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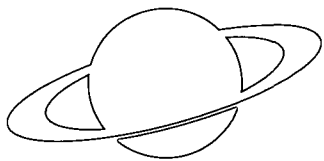

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Strange Horizons, it featured not quite a dozen stories. In the interim the site has become a showcase for some of the most exciting new voices in the genre, folks like **Nnedi Okorafor** <*http://icarus.cc.uic.edu/~nokora1/index.html*>, **Madeleine Rose Reardon Dimond** <*http://home.earthlink.net/~mmroserd/*>, **Michael J. Jasper** <*http://www.sff.net/people/michaeljasper/*>, **Alan DeNiro** <*http://www.taverners-koans.com/ratbastards/alan.html*>, **Nora M. Mulligan** <*http://www.geocities.com/noramm10566/*>, **Christopher Barzak** <*http://www.taverners-koans.com/ratbastards/zakbar.html*>, **M.L. Konett** <*http://userdata.acd.net/sheep/index.htm*>, **Cecilia Tan** <*http://www.ceciliatan.com/home.html*>, and **Beth Bernobich** <*http://www.sff.net/people/beth-bernobich/*>. Not only that, but *SH* has reprinted some of our very best, like **Thomas Disch** <*http://www.michaelscycles.freeserve.co.uk/tmd.htm*>, **Howard Waldrop** <*http://www.sff.net/people/Waldrop/*> and **Carol Emshwiller** <*http://www.sfwa.org/members/emshwiller/*>—you know, writers who play in Michael Swanwick's league.

useful clicks

Simon Haynes of Perth, Australia wrote me not once, but twice to call attention to some cool software he has coded. The second time was in response to my column on **E-Books** <*http://www.jimkelly.net/pages/e_books.htm*> in March of 2001. Seems that Simon has created a Windows-based e-book reader called the yBook Reader, which is available for free at his website, **Spacejock Software** <*http://www.spacejock.com*>. Simon points out that his software "has these advantages over MS Reader: It's got a two-page view and will read HTML and TXT files and can be run off a floppy." Its advantage over Adobe Reader (formerly the Glassbook Reader)? "You don't have to pan the damn page when you zoom in," writes Simon. "It rejustifies the book instead." I have tried the yBook Reader and find that it works very well indeed. It is particularly handy for reading downloaded web pages. Say I want to read the latest from *Strange Horizons* or *SciFiction*. I save the file to my hard disk, pop up yBook Reader, load the file into it and *voilà*: indented paragraphs and no scrolling! You too can have a book-like reading experience on your very own screen. By the way, I would be remiss if I did not point out the name of Simon's site comes from his comic novel *Hal Spacejock,* which was short-listed for Australia's George Turner Prize in 2000.

Rachel Sythe of Sebastopol, California, thought I might be interested in a webcomic site called **Electric Sheep** <*http://www.e-sheep.com/*>, created by the artist Patrick Farley, and I was. Very much. There are some wonderful web-enabled strips here; the ones I like best were "Chrysalis Colossus," an SF meditation on evolution and futurity that quotes from Ray Bradbury's "A Sound of Thunder" and "Shapeshifter," a surreal but exquisitely rendered fantasy about ancient powers that lurk in an enchanted cup of coffee. Clicking on the *coming soon* link will take you to a page previewing future delights that also includes a list of links to other comic sites. First on the Electric Sheep list is the website of **Scott McCloud**, which I raved about in my column on **Comics** <*http://www.jimkelly.net/pages/comics.htm*> back in December of 1999. McCloud's site is well worth revisiting, especially for the graphic essay **I Can't Stop Thinking #5: Coins of the Realm** <*http://www.scottmccloud.com/comics/*

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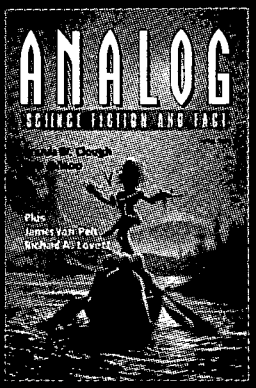

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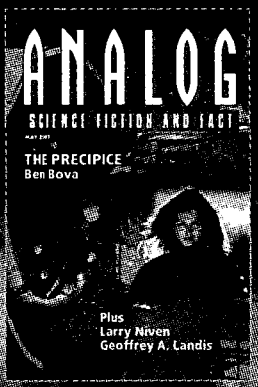

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about how "The New Economy" might affect artists. Also check out Scott's link page <*http://www.scottmccloud.com/links/links.html*> for ten of his favorite webcomics artists. Much beautiful weirdness here.

Craig Engler, Maximum Commander of the sprawl that is **Scifi.com** <*http://www.scifi.com/*> asks that I mention two new features that he says "are designed to be general resources for the entire SF Internet community." **The Events Calendar** <*http://www.scifi.com/events*> and the **SF Web Guide** <*http://www.scifi.com/webguide*>. The calendar is intended to be a list of what's happening across the genre from book releases and TV show premieres to conventions and net chats, while the Web Guide aspires to be "the Yahoo! of science fiction." As I write this on a hot day in August, both are works in progress, but given the resources of Scifi.com, when you read this on a chilly evening in March, they may well be must click sites.

I first mentioned **Tangent Online** <*http://www.tangentonline.com/*> in a column on **Content** <*http://www.jimkelly.net/pages/content.htm*> in July of 1999. Some time thereafter, what was indisputably the premier short SF review site on the web fell on hard times: updates were irregular at best. In April of 2001, the indefatigable Dave Truesdale announced that he was relaunching Tangent with a new look, a new web master and a new web address. I am here to tell you that it is better than ever. The reviews are by divers hands and while some critics are perhaps more astute than others, all of them are eminently readable. The current incarnation of Tangent is not quite as free as it used to be, however. While you don't need to pay to browse the site's archives, in order to read the very subscribe for the very reasonable sum of five dollars for an entire year. Jim says do it—this is a site that both writers and readers should care for.

Walt Smith of Raleigh, North Carolina wrote to pick "a relatively minor nit" with my use of the word listserve in the July 2000 column called **Inbox** <*http://www.jimkelly.net/pages/inbox.htm*>. Walt points out, "One subscribes to the list (or mailing list) and not to the listserve, itself. Properly, there ain't no such animal as a listserve . . . there's a list server and like any server, it's hardware running some kind of program. I realize that the rabble have managed to make this, through their linguistic bastardization, a losing battle, but never let it be said that I don't try to keep otherwise intelligent and well-meaning people on the straight and narrow."

I hope that means me, so thanks, Walt!

exit

I believe it was **Anton Chekhov** <*http://geocities.com/Heartland/Bluffs/7745/Chekhov.htm*> *who said that if a writer* puts a gun on the mantel in Act I, it had better go off in Act III. I've had my friend Michael Swanwick sitting on the mantle since the beginning of this column; I guess it's time to explain why he's there.

Several years ago Michael picked up an issue of *Asimov's* that featured the two of us. My name appeared on the cover just above his and, for an instant, he misread this as "James Patrick Kelly" by Michael Swanwick. He has related his confusion to me several times as the idea for a work of fiction he might write someday. I take this seriously; Michael has already given me a walk-on part in

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one of his stories. So now, by writing an essay called "Michael Swanwick," I hope to have discouraged him from penning his threatened Jim Kelly story.

But I do have a justification—however slim—for making "Michael Swanwick" the title of this column. In a February 2000 column called **Readers' Writers** <*http://www.jimkelly.net/pages/readers'_writers.htm*> I chided Michael for not having a website. Recently Vlatko Juric-Kokic of Zagreb, Croatia, Keith Brooke of Brightlingsea, England, Peter Tillman of Tucson, Arizona, and Nicholas Gevers of Cape Town, South Africa, banded together to unleash **Michael Swanwick Online** <*http://www.michaelswanwick.com/*> on cyberspace, with Michael's blessing and cooperation. This is a very nice site indeed, with a generous sample of stories and opinion by and about Michael. One unusual but very Swanwickian feature is Unca Mike's Bad Advice column. Michael explains the concept, "My advice is designed to cut new talent off at the knees and thus keep down the number of writers I have to compete against."

Very funny, Michael, but is it the best bad advice ever? ○

Kim Stanley Robinson — February 26 @ 9:00 P.M. EST

on *The Years of Rice and Salt.*

Michael Swanwick — March 12 @ 9:00 P.M. EST

on *Bones of the Earth.*

Hot New Women Authors — March 26 @ 9:00 P.M. EST

Kay Kenyon on *Maximum Ice*, Holly Lisle on *Vincalis the Agitator*, and Warner Aspect First-Novel Contest Winner Karin Lowachee on *Warchild.*

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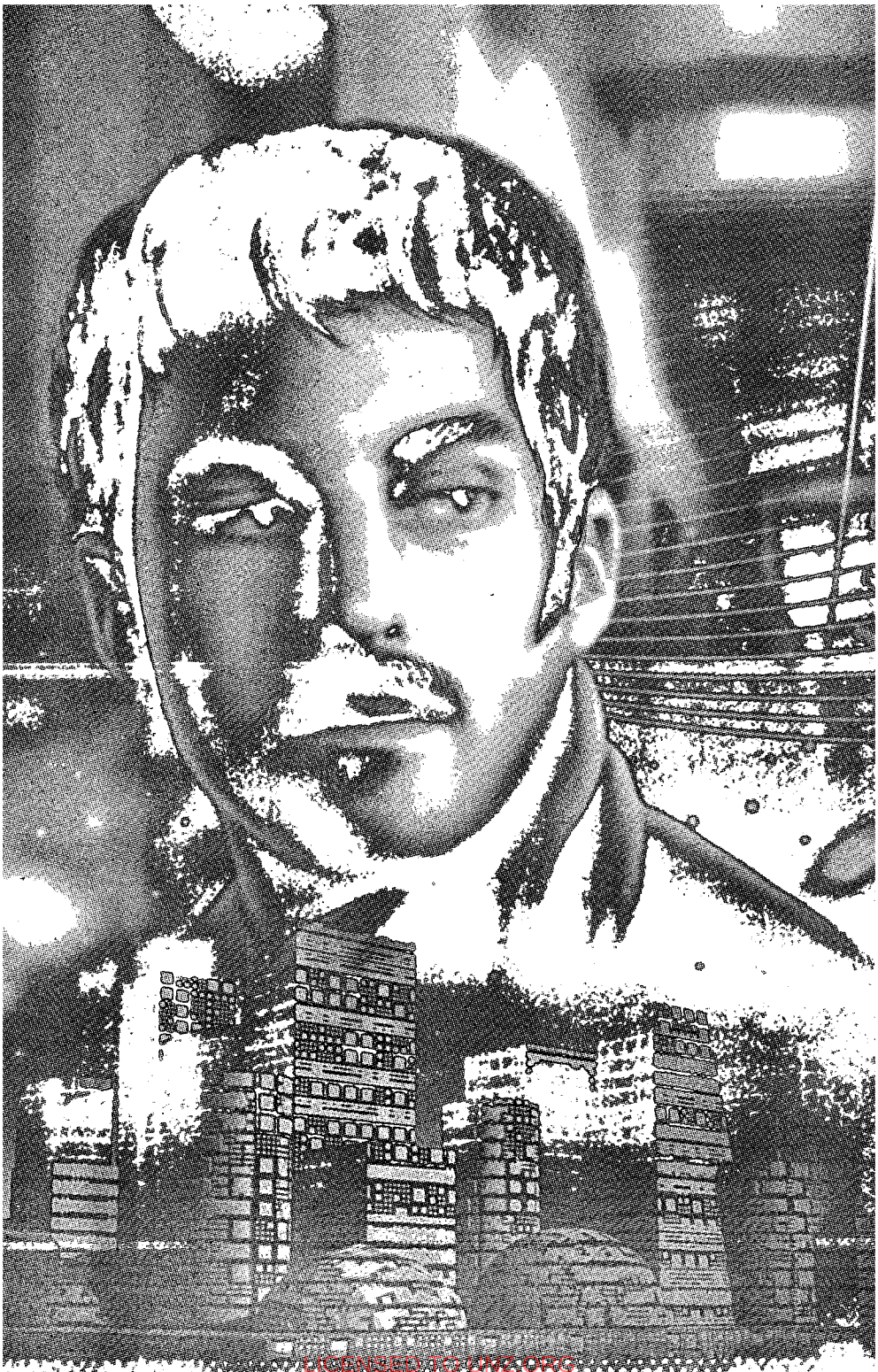

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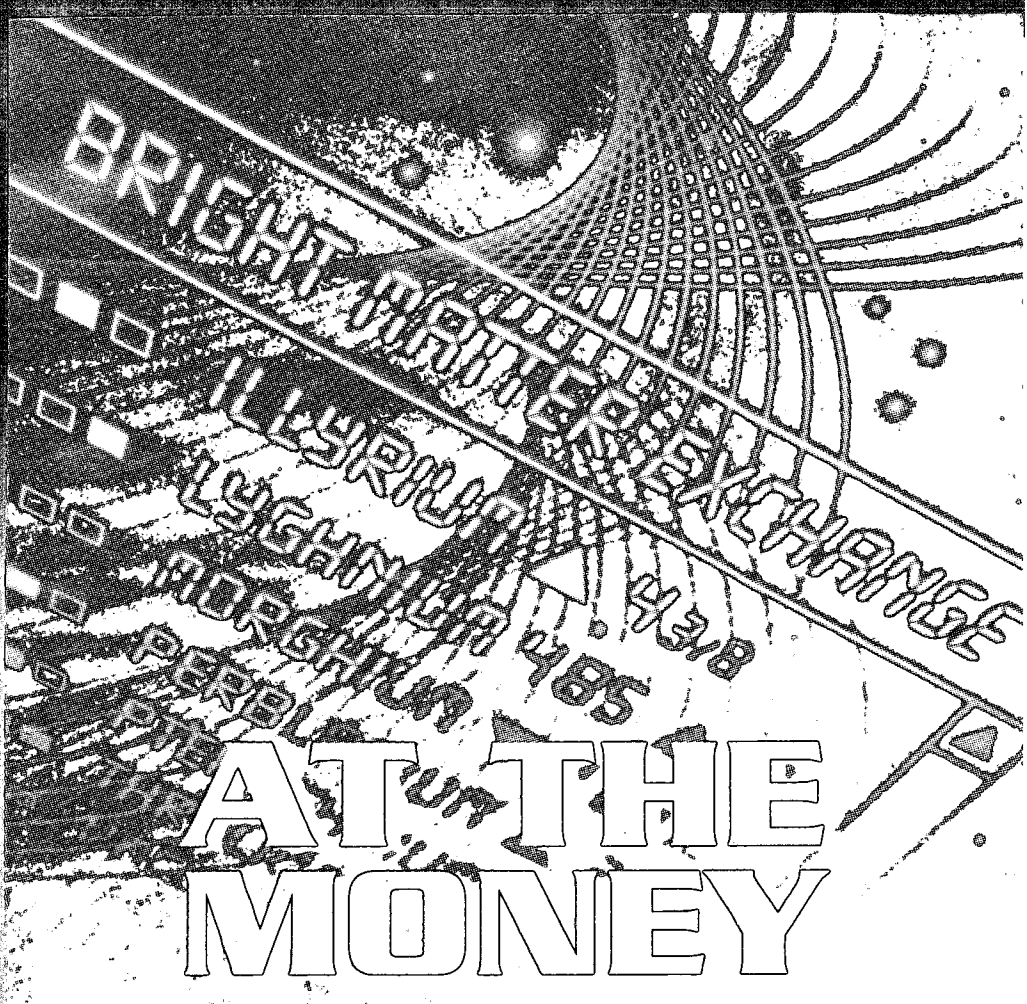

AT THE MONEY

Richard Wadholm

Illustration by Alan Giana

"At the Money" is a companion piece to "Green Tea" (*Asimov's*, November/December 1999), which was a finalist for the Theodore Sturgeon Award. The author tells us his new story "was inspired by an exhibit of Dutch tulip paintings, each one commissioned during the tulip mania of the seventeenth century as a sort of horticultural prospectus to entice speculators. I have been fascinated by the culture and history of financial speculation ever since." Mr. Wadholm would like to offer up a word of thanks to Will Tham, who made the intricacies of commodities trading seem simple.

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Personally, I see nothing wrong in doing deals in a bar. Esteban always loved working out of Chuy's. He wore the place like an old coat. Every barmaid was his foil and confidante.

We did a deal with a couple of Anglos just before Esteban went out on his last run. Twelve hundred pennyweight of morghium, bound for some ideology franchise in the Scatterhead. Whenever the negotiations got tense, Esteban would vow he didn't need their money anyway. He could get enough to live on from Doctor Friendly, "the Spaceman's Friend." Then he would grab some nether part of himself and give a leer to the old tumor broker at the end of the bar—" *What'll you give me for this, huh?*

The Anglos would look appalled. Martisela would look from Esteban to me in amazement, like Sleeping Beauty awakening in the wrong castle. "*This* is what I sneak out of the convent for? High risk and low comedy?" And Esteban would grin at me, even as he pleaded with Martisela not to tell his wife.

Times like that don't seem special until later, when you look up and suddenly realize they are over.

Tonight, I was back at Chuy's. I was meeting the same Anglos, tying up loose ends with the same morghium deal. Only Martisela was back at the convent. She was through missing bed checks for a while. And Esteban?

My last conversation with Esteban, he was on this Bright Matter ship, the *Hierophant*. They were up in the dusky end of the Scatterhead Nebula, passing through a plume of tungsten ions left behind by some medium-sized supernova. Esteban had loaded the Anglos' target isotopes onto the *Hierophant*'s starboard vane. He was calling me to double check their nuclear chemistry: Would perbladium transmutate into morghium under tungsten ion bombardment?

Really, they print this information on splash screens. I would have yelled at him for the price of the call. Except I knew the real reason he was calling. These pinche Anglos and their morghium job had him in sweats. He needed a little reassurance. I told him everything was all right. I promised him he wasn't going to die, I'd see him when he got back.

Tonight, as I sat at our old table next to the tumor broker, I thought about that promise. All I had left of Esteban was a salvage ticket awarding me 900 pennyweight in unspecified isotopes. Not even a guess what these unspecified isotopes might be, or how long till they decayed to something else. Only that Esteban Contreras had entrusted them to me for the sake of his wife. And they were worth the price of a fleet of Bright Matter ships.

Chuy's Last Load Lounge was hosting a wake for the crew of Esteban's ship, the *Hierophant*. Chuy himself—Jesus Navarete to Anglos or ships' officers—had worked on the *Hierophant* as a young man. Dorsal vane mechanic, he reminded his patrons proudly— "*Where the money gets made.*" A target shelf of hot phoellium had fused the fingers of his left hand into a flipper. A man of lurid humor, he had planed that load of glassified slag into a countertop, mounted it on dark azurewood and made it the centerpiece of his life as an innkeep. To this day, the counter glows from the isotopes embedded within.

Chuy was perfecting the head on a pitcher of French lager as I stepped up to the bar. Grief is thirsty work; three other pitchers extended to his left. Alpha particles from the bar passed through them, trailing arcs of delicate bubbles.

"Ah. Lazarus," his voice slow with care for the beer. "Back from the dead to tell all."

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"Chuy."

"I hear share prices for the *Hierophant*'s salvage rights have gone up 27 percent since the accident. I don't suppose you'd like to take a little credit for that." He never looked up from his task. In the best of times, there is antipathy between vane dogs like Chuy and mercaderos like myself. This was not one of those times.

I smiled. "You're just saying that so I'll buy the next round."

He leaned forward to give me a malign squint. For one moment, an arc of quiet speculation seemed to spread out around the two of us. My life was, as they say on the Exchange, *in play*.

But the night was too sad for that sort of foolishness. He slapped my arm and gave me a snicker at once ugly and forgiving. The sort of laugh meant to be passed around between pinche cabrones like ourselves.

"Here," he said, and passed me one on the house. As he did, he leaned in close. "A couple of gabachos looking for you." He waved his flippered hand toward the room. "They're around here somewhere. You keep your business quiet. I won't be responsible, you start offending people's sensibilities."

Even as he spoke, I felt a presence at my side. In the mirror just past Chuy's head, I saw a copper-haired Anglo with pouty lips and strawberried cheeks. I doffed my beer to him. "Mister Chamberlain," I said.

He smiled. "Orlando Coria. And your friend, Contreras. . . ?" He looked past my shoulder as if Esteban might be waiting in the crowd. No Esteban; Chamberlain lifted his eyebrows, *well well well*. "Damn shame," he said. "Smart guy like that. And that nasty little nun?"

"Back at the convent."

"Well," he offered, "I'm sure you miss her." He took my hand as he spoke. More than a handshake—I felt myself gently directed toward a quiet spot at the end of the bar.

Another Anglo waited there. This one sprawled across his chair, hips and shoulders cocked fashion-model style. A little smile played at his lips. This would be Chamberlain's . . . *"chauffeur?"* These Anglos.

Chamberlain gave him a nudge that knocked his leg from the tabletop. "Bell, be convivial."

Bell said, "Hey, Buddy." They must have been bashful where Bell came from.

I made room under the table for my barter bag. It was mostly empty but for a couple of perbladium samples from one of Esteban's little jobs. These gabachos had introduced themselves as perbladium speculators. I was curious to know if they would recognize real perbladium when they saw it. I was curious to know who they really were.

I set Esteban's salvage ticket on the table and leaned back to take in their reactions.

Chamberlain studied the ticket over tented fingers. He might have been counting his money. He might have been adding up his crimes.

"That's a lot of money for a bit of morghium," he said.

"That was my thought as well. Have you seen what's left of the *Hierophant*? Whatever you gave Esteban to turn, it didn't transmutate into morghium."

He gave his partner an expression of aggravation. "I told Seynoso to pay for this stuff outright."

"That would have been awkward," I said.

"When would it have been more awkward than right now?"

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"About the time the *Hierophant* burned with all hands. Someone from the Mechanics' Guild makes a point of looking up every registered investor."

I was calling him a ship killer, is what I was doing. There were two possible reactions to this sort of slander. Horror and outrage, and this other one. More rueful, more considered.

Chamberlain pressed his fingertips a little tighter. "There's a story behind this morghium deal. Things are more complicated than you think." He waved his hand, the story was too complex to go into now. "I'm willing to buy these salvage rights from you, blind. I'll pay you 10 percent market price. And before you laugh, consider the realities. You don't know what you're holding anymore than we do. You might be holding lead futures for all you know."

I would have stood up to leave, except that Chamberlain was right. All I had in my hand was a market mirage. It was expensive as such things went, but all salvage looks good from a distance.

This was when I missed Martisela's market expertise. She had three of the seven basic Thommist Catastrophes ingrained as quantum processors into the unused DNA of her hands. Wasn't a decay chain she couldn't follow. I had nothing to go on but my unscientific nose, which wrinkled considerably at these two.

"I'm not in a position to negotiate," I lied. "This salvage claim belongs to Señor Contreras's family. Unless you've got some further claim, I am obliged to sell it at the market price."

" 'Further claim?' " Chamberlain gave his compañero a nudge, *such language!* "We have further claim," he said. "We bought first position on your decay rights."

He produced a futures contract for whatever isotopes might decay from Esteban's unspecified salvage. I looked down till I found the signature of Esteban's wife, Cynthia. I looked back and the two of them were grinning at me.

There is nothing illegal in optioning 900 pennyweight of pterachnium to one investor and then optioning its decay products to someone else. Martisela always warned me to cover those isotope futures in the contract. What had Cynthia been thinking?

"Señora Contreras is distraught," I said. "Whatever she hoped to gain with this will be satisfied some other way. I think I will leave you now."

"What about our decay rights?"

"The problem with decay futures? They are useless unless something actually *decays*. That is why they are cheap to buy. *Ay te wacho.*"

Chamberlain needed a moment to realize what I was saying. "You really are going to make this hard, aren't you?" To himself: "He's really going to make this hard." He looked at Bell to do something. Bell seemed utterly impassive.

I was pushing myself back from the table when I noticed a fluorescence in the gloom of Bell's shirt cuff. I recognized the source from my own improvident youth—a 48 yuen piece on a leather loop. With a bit of steghnium to light old Mau's eyes. Or a 128 yuen piece, bearing Emperor Yuan, lit by phoellium. Or a 256 yuen piece, glowing with albatine. Depending on what sort of smugglers they were and what sort of detectors they had to confuse.

Bell had been toying with the coin all this time, but I hadn't noticed till he let it slip from his fingers and into the gloom of his sleeve. He twisted his

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cuff as if embarrassed, but not so quickly I would miss the bleeding ulcer beneath the coin. Yes, he had been wearing it a very long time.

He noticed my eyes on his smugglers' charm. He gave me a smile as desolate as every darkened doorway along Calle de Campana. Chamberlain nudged my barter bag with his foot.

"Enjoy the evening," he said. "We'll catch you up with you."

I glanced to the rest of the room. An engineer off of the *Page of Wands* sang a corrido to the vane mechanics of the *Hierophant.* How much they loved their pepper seed mash. How bad it made them smell. A compañero chimed in, something about their dubious sexual practices. Make no mistake, they'd all be weeping in a moment. Had I miscalculated?

The entire roomful of people seemed caught in their grieving. Save one little Anglo. I spotted him sitting by Doctor Friendly, the tumor broker. I remember hooded eyes, and this goatee that seemed to point the way for his nose. He watched me intently. I thought he might come to my aid. The little Anglo merely nodded at me and smiled—*now what?*

They do have their sense of fun.

I turned back to Chamberlain: "What if I made you a counter proposal?" I said.

Chamberlain lifted an eyebrow at Bell—*are you listening to this?*

"One moment of patience, I will show you real wealth." I had come here to deal for Esteban's legacy after all. And why not offer them a sample?

I gave Chamberlain my confidential smile. Careful, *careful,* so as not to alarm, I pulled the pouch of woven lead from my barter bag. It was a small pouch. It barely filled my hand. But heavy enough I had to stiffen my arm beneath it.

There is an art to this sort of presentation. I peeled back the double-sealed flap. I made it an unveiling. Inside gleamed a ball coated in mirror-smooth nickel. I could see Chamberlain was fascinated. He wanted to touch it. Still, I held onto it. I waited till he asked before I slipped it from its leaden sheath and into his palm.

He laughed at the surprising weight of it. "It's heavy."

"Yes, it is."

"It's warm."

"Like holding a hamster in your hand. It's a subcritical amount of perbladium, distilled from liquid suspension and purified. Up in the Scatterhead Nebula, the militias use it as a crude proximity trigger. That warmth in your palm? That's alpha particle radiation, knocked off the sealant."

Chamberlain shrank back. He had the cerrazadito's abhorrence of contamination. Now it was my turn for amusement.

"Forget the alpha particles," I soothed.

He looked at me to see if I was having him on. His shoulders eased. "Perbladium," he said. He laughed a rueful little laugh. "I stay away from the real touchy stuff." This was a big admission for Señor Chamberlain.

I nodded. Sure, sure. "You need something to worry about, consider the neutrons reflecting back from your body. They are quickly pushing that little ball to criticality."

He was still smiling as he looked up at me. I'll never forget the moment he stopped.

"You're lying."

I had a particle detector on the table. It roared to life at my touch.

Chamberlain made a strangled yip. He dropped the ball of perbladium.

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He dove backward into a drunken throng of vane mechanics, which might have been the wrong thing to do.

That left Mr. Bell. His eyes skittered from the sample on the table to me. One of us would kill him. He seemed uncertain which. I was about to clear up his confusion when Chuy Navarete rounded the bar with a couple of beefy crane operators off of the *Ace of Pentacles*.

"What did I tell you?" I think Chuy was more furious with me than anyone else. "Come in here. Ruin the somber mood . . ." He glared down at my perbladium, which had dented the table where it landed and never even bounced. "That stuff better not be real."

"Sorry, Choo. I was just putting it away."

Chuy reached into the brawl and withdrew a very bruised and confused *guero,* who swung at him in wild frustration, and snarled, "Let go of me, you fish-handed freak!"

I winced. Everyone in the bar winced. Chamberlain might have said a lot of wrong things and not said that.

Chuy gave Chamberlain the sort of benign smile a chef bestows on a favored lobster. *"¿Como?"*

We will avert our eyes at this point. Take my word, the fate of these two gabachos only gets more wretched. In any case, I had a fortune disintegrating in my pocket. And only one person in Buenaventura could tell me what it was.

I want to tell you about Martisela. Martisela and Esteban and myself. A trio of swindlers were we. I was sleeping behind the kiosks that line Borregos Bridge. I imagined myself a romantic figure, a Prince of the Barrio. Though, a little older and a bit less turned-out, I might simply have been "homeless."

Martisela had already been exiled to the Convent Santa Ynez for selling short on the anti-money market just as it pitched into its long-overdue collapse. One of the few truly blameless things she had done in her entire sordid career. Ahh, but she had made money where others had lost, and that was not to be forgiven.

Esteban Contreras actually held down a steady job—Starboard Vane Chief on the Bright Matter Ship *Hierophant.*

He used his position to solicit these little side jobs—a couple hundred pennyweight of phoellium to melt a polar ice cap into atmospheric gasses. Or vanodium to be turned to echnesium to confine a bit of industrial grade Vacuum^2.

He always backed up his commodity by optioning futures on its every decay state. Then he sold these options to his partner—*me*—and I used them as collateral to pump the stock of the Orlando Coria Mining and Bright Matter Company, Incorporated. Amazing, the sort of people who will throw money at a little brokerage with the right sort of pedigree. It might have been criminal if we had made any real money. But Martisela was the brains behind this mob, and she never really cared about the money. The fun for her was in rigging the game.

Only one time did we get serious. This was prior to Esteban's last trip out with the *Hierophant*. Esteban had agreed to turn this load of morghium for Chamberlain and Bell, and their iffy Spanish friend, Seynoso. Esteban thought the job over some more and decided that it liked him not. We decided to put this Spaniard's morghium to our own ends.

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Morghium is pretty humble stuff. It has a bit of Vacuum[1] at its heart, which alters the speed of light through certain crystal lattices—big news if you're a designer of quantum optic switches. It is more spectacular as a target material. Flown through a cloud of tungsten ions at just under the speed of light, morghium transmutates under bombardment into some of the most exotic stuff on the Bright Matter Exchange. Lyghnium, and Vacuum[4], which whispers of a universe full of magnetic monopoles. Pterachnium and Vacuum[3], used to convert underloved white dwarf stars into highly desirable singularities.

With our client's morghium in hand, Esteban offered futures on pterachnium, even though he would have been crazy to actually turn anything so dangerous. Martisela optioned Esteban's potential pterachnium using money borrowed against its potential isotopes. I was the one in charge of cashing it all in.

For about two hours there, our stock was leading a small bubble market in lyghnium 485 futures. I was as wealthy as I had ever been in my life.

And then someone even funnier than we used our stock's inflated market value to leverage us out of our own corporation. And what were we going to do? Complain to *Los Zapatos?*

Martisela went back to the Convent Santa Ynez. Esteban went out on his last run with the *Hierophant*. And me? I returned to the aesthetic life. Who knows where I might have landed but for this ticket of unspecified salvage. I rather dread to think.

There was always this moment when I saw Martisela again. Things came back from the old days. Challenges we had met. People we had done. I would get awkward and romantic, Martisela would simply get awkward.

Martistela stood back from the Convent's ornate front door. She blinked up at me with her graphite-colored eyes and thought of two or three things not to say.

I said, "I'm cold, Marti." I nodded behind her, toward the inviting warmth of the Convent Santa Ynez. "Will you let me in?" I could smell tea brewing somewhere down the hallway.

Martisela Coria closed the door behind her. She gave me a prim little smile; we would suffer together. "Are we here for the Commodities Exchange, Señor Coria? Or is it the room and the hot meal?"

"I need you."

"This is business, I presume?" Martisela was having a grand time. I could tell.

"I've got something going. I need someone who can read the market for me. You're the best I know."

We looked at each other, suspicious as gangsters. "What's the commodity?" she asked.

"Just backroom stuff. Strictly backroom. No shares, no speculation."

"What's the commodity?" Repeated, with a little edge to her voice.

"It's 1.3 teratramos. Marti—*1.3 teratramos!*"

Her chin started to rise. "You're nervous, Orlando."

"I'm not nervous."

"Don't lie to me," she said. '*No shares. No speculation.*'" In her scornful heman voice. "You've got something unstable and you're trying to unload it before it decays to lead."

This is the price one pays for dealing with an ex-spouse. At some point, all

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the surprises lay behind you. Along with most of the hopes. She looked at me, daring me to lie. I could see her hand edging behind her for the door. The water-taxi pilot who had brought me out was venting his boredom by tapping the boarding bell.

"I have acquired Esteban's load."

She turned on me in slow, blinking, perfect amazement. "The *Hierophant,*" she said. "You're trading on the *Hierophant*." Her hands came loose at her sides. "You're trading on Esteban's last load?"

Allow me to spare you the rest of our reunion. Swearing is like riding a bicycle, I suppose. In any case, there's no percentage in outrage.

"It's for his wife, Cynthia," I said. "Esteban named me executor of his estate."

"Cynthia Contreras. The *golfa* with the colored eyes."

Perhaps Esteban's semi-comely widow was the wrong person to bring up. "It's for you as well," I said. "To get you out of this place before the Church sends you off on some doomed bright matter ship."

"What makes you think I want out of my obligation to sponsorship?"

This would be a rhetorical question. The wreck of the *Hierophant* had been found in the San Marcos star system just two days earlier. Nobody wants to die the way those people died.

"Have you seen the market fixing on April hostages? April hostages are up something like 20 percent." The market seemed to be forecasting an imminent shortage.

She gulped that one back a moment. Then: "The sisters are a little touchy about that word, 'hostages,'" she said evenly.

"When exactly were you going out on your sponsorship?"

"Tomorrow morning." She looked at me. "You laugh and I'll slug you."

A phone went off at her belt—Martisela was late for the evening meal. They were wondering, was everything all right? My taxi pilot was calling out something about a cargo he had in the back, decaying to lead. Martisela seemed perfectly content to let us all wait.

"This unspecified salvage," she said to me. "This is from that morghium deal we did? And the market is putting the price at 1.3 teratramos? That must be some kind of vacuum state." I mentioned how Cynthia Contreras had sold off the isotope rights. Martisela shook her head in astonishment. "That's a really stupid thing to do," she said. Only we both knew Esteban's widow, and she was not prone to stupid moves. Not at her most grief-stricken.

"You know where this all plays out."

"At the Botanica." She said it without thinking, in a rush of breath and memory that broke my heart. The Botanica Linda was where she and I had spent our lives. All our memories were there. All our good fights.

"This is just for Esteban," she said as we boarded the water-taxi back to town. A couple of Martisela's *hermanas* poked their heads out the door. "I'll be right back," Martisela called out to them.

I realized I was participating in a jailbreak—a Buenaventura sort of jailbreak. Martisela had made good her escape. But she was leaving for her sponsorship in the morning, she had to be back before then or give up any thought of ever retrieving her trader's license.

This would be a jailbreak as staged by Cinderella.

Martisela must have realized this the same moment I did. All the way to the Bodega, I heard my Spanish Cinderella looking forward to midnight:

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"Ya me chinge," she muttered.

I remember when the Anglos started bringing their war business to us. There was not much discussion on the morality of marketing perbladium to sociopaths. Mostly, the Shoes worried that the old city, with its paraffin works and its churches all tinged green by lizard droppings, would present an unsophisticated face.

A new Exchange was built in one of the towns along the Buenaventura Crater rim, as far away from the wet docks and the paraffin works as possible. It's very nice. Perhaps you've seen pictures? I especially like the true clock in the Court of Commerce. (Though honestly, how many people need to know the true ship time of some carrier up in the Blanco Grande? All the Bright Matter traders have their own true clocks anyway.)

The real money, of course, remains where it always has. In the back room of the Botanica Linda.

Señora Sebastian still sells herbs and roosters' feet to bless a new enterprise, and flaming hearts of Mary to the more esoterically religious. She keeps dishes on the glass case full of those hard, unsweet candies the Bright Matter smugglers call "piedras de molleja"—gizzard stones.

She recognized Martisela from the old days. "Are you back, Señorita Davalos?" *Señorita Davalos*. And with her husband standing beside her.

Marti smiled. "I'm helping him out of a jam," she said.

Señora Sebastian looked at me. "You've got one of those 'unnamed salvage" tickets?' With an expression that said, *You're probably expecting it to pay off like a lottery ticket, aren't you.* "Have a stone." She held out the dish for me.

Martisela gave me a piquant little smile, barely more than a dimple. She scooped a few into my hand. "Oh, be nice," she hissed at me, and we plunged through the curtain into darkness and noise.

The trading room is kept dim against the sudden blossoming of holographic charts or a ghost wall or a ballet of hands traced out in bioluminescent catastrophe grids. It is an old warehouse turned into a grotto, and the darkness between the lights is frantic.

The calls and cries and angry laughter reflect off the hardwood ceiling all the way back to the little clutch of desks where the shipping underwriters are laying odds on every transport that leaves orbit. Put your hand to any desktop, the tremors grind at your fingertips like low electric current. And that's an average night.

In a shipwreck market, every fortune is at stake. Your bit of salvage may still exist. Or it may be melted to slag. Or it may be seeded with some exotic vacuum state and is already being coveted by a market that knows more about what you have in your pocket than you do. The only way to find out is to wander through the assembled multitude, plucking at the feedback loops that tie us all together.

An agent offers time at her Bright Matter refinery up in the Four Planet Nation. A transport jobber hints at a ship he has available—not the fastest in the fleet, but the captain can hold it to within a baby's breath of light speed, right where relativistic time dilation effects are most acute. Who can say why these people come to you? The market sent them, that's all.

One blurs the eyes and allows a market's worth of greed and fear and quantum computing power to shape the gaps into recognizable outlines. This strategy works best when the market is calm and winners and losers

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can be neatly defined. Tonight, the market rode this *Hierophant* bubble. All bets were off.

Here are a few of the commodities rising with the shipwreck market:

Bright Matter was up, of course. The price of Vacuum[4] doubled in the time it took my eyes to adjust to the dark. Moving in tandem to the Vacuum[4] would be the market in large-scale power generation. Power generators loved Vacuum[4] for its steady flurry of magnetic monopoles. And gnodium, the baryonic cinder that separates Vacuum[4] from the rather fragile vacuum of our own universe. And, if you care to press a point, the market in high-priced legal insurance; vacuum traders are notorious for whiling away the hours in recreational litigation.

Someone was offering Tuesday afternoon illyrium, which would be thralium 442 by Wednesday morning (and sold as a separate commodity).

Someone else was dealing Vacuum[8] and lyghnium, a favorite combination to Anglo ship killers. Vacuum[8] for its cognizance of bright matter. Lyghnium for its dense neutron cross-section and spectacular binding energies.

Doing even better than the bright matter market were futures in single-bean Saint Elise cocoa, which is prized in the French Violet for that little kick that arsenic lends the aftertaste. Corn and soy futures were doing well, especially in the Four Planet Nation, where the variable star M. Exelrod had been turning up the heat lately, which was good for their growing season.

And then there were the franchised ideologies. Even cocoa couldn't compare to the market in April Communism. Object-Oriented Socialism had suffered a huge debt write-off, but they continued to do well on the strength of their subsidiary interests in ergosphere mining. Of course, National Socialism is always looking to break out of the pack.

The only unease in all this giddiness lay with the *Hierophant* itself. After fifty hours, the silence from the salvage crews was growing worrisome. Traders try to be realists about shipwreck bubbles. Nobody expects to smash a violin and hear Schubert. But there should have been something. The ghost walls whispered rumors of tellolite nodules dug from the face of the starboard vane. A few had tested positive for Vacuum[6]. Where was the mother lode to make this all worthwhile?

A new set of ghost walls opened—salvage reports from the port vane of the *Hierophant*. The port vane carried medical isotopes, which I do not invest in. Good thing for me.

Martisela stood on tiptoe as she read down the lists of salvaged isotopes. It was one of those unconscious gestures of anxiety, like me, whenever I pull at my mustache bangle. "*Ave Maria purisima*," she said into her fingertips.

There were a few heart warmers among the wreckage—a bit of albatine, shielded by chance behind an isotope vault. A hundred kilos of medical-grade cobalt 60 dug from the wreckage of a collapsed targeting shelf. But that was as good as the news got.

Most of the stuff on the port vane had been poisoned by neutron flurries from the accident on the starboard vane. That, and heat and melted titanium and carbon and boron.

"Esteban was out in that," Martisela said.

"This *Hierophant* market is going to tank if they don't find something better than this," I said.

Across the room, investors pinched their foreheads. They checked their currency markers, and turned on their catastrophists—*there must be some*

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mistake. Really, it was a ship accident after all. What were they expecting? I gloated at their naiveté for a moment or so. Then I remembered my own little bit of paradise.

Martisela watched me watch the port vane assays drift away. She nodded toward the currency marker in my back pocket. "Go ahead," she said. "You might as well know now."

My 1.3 teratramos of unspecified Bright Matter had bucked the market. It had increased in value. It was now one-and-a-half teratramos of unspecified Bright Matter. A remarkable price for something that no one could name. Martisela looked dubious. Even I was uneasy. This business is far from infallible. We might have been chasing a qubit shadow. Maybe something as simple as too many investors, and too many quantum recognizers, not enough hard-eyed realists.

I pressed the market to give me some sort of decay chain. Any real baryonic commodity will break down into a sequence of isotopes. Even without knowing the parent isotope, the market will extrapolate a decay chain, complete with estimate of its market value, half-period, and purity.

My 900 pennyweight of unspecified wealth just sat there, grinning at me.

"It's some sort of vacuum," I reasoned. "Vacuum^6, maybe. They don't figure decay plateaus for Vacuum^6."

Martisela gave me a look I had seen entirely too often lately. She told me to sell my shares while I had that little bit of mystery at my back. "If nothing else," she said, "option futures on the decay products. A market like this, people will bet good money you won't get your unspecified Bright Matter to market before it decays into their unspecified isotope."

She was probably right, of course. But we had a little while. The assay for the *Hierophant*'s dorsal vane would not be in for another eight hours or so.

"Let's go talk to the neighbors," I said. They would be out on the patio, plying their trade in the metallic plasmas and exotic vacuum states. She put her arm in mine, and we smirked at each other just enough to show we were not fooled by this arm-in-arm business, not for one minute.

The Bodega Linda opened onto a patio in those days, a view past the paraffin works and down to the bay. This is where the jaded gentry drank and sparred. It was more or less invitation only, and I had never, not on my most profitable week, been invited. But one-and-a-half teratramos in my pocket made me cocky. Even if it was for one night.

We were stopped at the door by a security guard. She remembered me. I could tell by her dubious expression. She asked if we had weapons, and studied a hand-held field detector while we answered. My perbladium sample provoked discussion with two security people, as did Martisela's grids. They passed on the perbladium, but Marti's grids were deemed an insult to the Efficient Market economist who ran the patio. I could leave Marti at the door, but I know where my gifts lie. I was the salesman. Marti was the banker. I could succeed without her—I could travel in this *range*. But I needed her financial sense to deal with the patio crowd.

I was debating how to broach the delicate subject of a bribe when the gatekeeper stepped aside for a man in an open-weave scarab-skin suit.

He grinned. He made a show of palming his eyes to peer in at us. "You bring a nun to vouch for your character and still they won't let you on the patio!"

I was tempted to ask Zuniga what he was doing here. His cuffs were open and rolled back to his elbows. As I looked closer, I could make out the ves-

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tiges of bifurcation grids, just paling-out against the backs of his hands. They were dense and strange, I couldn't figure what he was working on.

He nodded toward Martisela. "Are you back with us now? Served out your exile or whatever that was?"

"I'm just helping out a friend." She refused to catch my eye as she said this. She absolutely refused to smile. "You're here for the shipwreck market."

Zuniga put up his hands—*What can one say?* "I find myself chasing down a bit of vacuum." He chuckled as he said this. We might have been discussing some embarrassing family secret. "I've bought out four vacuum traders already. They all know they've got hold of something, not one of them is smart enough to tell me what it is." He cocked an eye at me. He looked sly. "You always like the hot stuff, don't you? The exotic vacuum states? The strange matter? I've always admired your taste in risky investment." He sighed. "Would you had a bit more liquidity. . . ?"

"The heart of a vacuum trader." I endeavored a smile. "The purse of a galley slave." I found myself holding my breath. This is the moment one discovers that religious bent that Auntie Gracia had always hoped for. Sure, I had come to the Botanica ready to meet my silent partners. But not Zuniga. Anyone but Zuniga.

Zuniga normally worked in decay futures, which is not necessarily the last refuge of a scoundrel, but it is no place to see people at their best. Everything was a fire sale to Zuniga. And if not, why not?

He studied me. "I'm giving everyone 620 megatramos per pennyweight," he said at last. "I'll give you 620 megatramos for whatever you're holding. Just because I like you."

I nodded to the grids on the back of his hands. "Go back and run your catastrophes again," I said. "You're not even close."

Zuniga leaned in close and confidential; he would bend a little, so long as no one could hear. "I can give you a gig if you're willing to accept part of it in stock."

Martisela looked at me. I looked at her.

"What sort of stock?" she said.

"There's this mining platform skimming the ergosphere at Los Batihojas." He glanced around nervously; black hole mining is rather disdained among our own, no matter how much the Anglos favor it. "Run by a bunch of crazy *gabachos* for the most part. They send a magnetic flume down into all those ions crashing into each other. They come up with the most amazing stuff. If this *Hierophant* market starts to play out, they are going to be positioned to pick up the hedge investors. Honestly, my friends, the stock's not bad. I'm giving you the keys to the kingdom is what I'm doing. I'm letting you walk in Saint Hidalgo's Scented Slippers."

Scented slippers or no, Martisela was appalled. She squinted at him in disbelief. "You want to buy us off with shares in this ergosphere mine, while you bet the bank you can make them worthless?" She gave me a look—*am I missing something?*

This, in so many words, was exactly what Zuniga was offering—A classic hedge. A teeter-totter, weighted on each end by commodities that Zuniga believed linked. A failure in one commodity would send investors to the other. Either way, he made out. Not necessarily his partners.

Zuniga looked from Martisela to me, looking for what? A wedge? Whatever he saw in our faces set him back. He had to think what to do next. "How

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about I make you an offer of just 500 megatramos?" he said at last. "No mining shares, nothing. And if you don't take it I'll let my friends know who it was behind that disastrous morghium business on the *Hierophant*. You know the people I work with. You know how they express their disappointment."

Ahh yes. Alberto Zuniga's fashionably dangerous clientele. Anglo militiamen and Bright Matter smugglers. Just the thing for a feckless playboy in need of a little gravitas.

"I'm stepping out for a moment to check on my charities," he said. "When I get back, you will accept my offer. Or I will set about making you famous."

Martisela watched him push through the curtain into the foyer. "Can he make things hard on you?"

I shrugged. For a lot of people, he could. People with houses and families and regular places they had to be at regularly appointed times. Now you know why I lived the life of a street urchin. I nudged Martisela. I nodded toward the door.

Martisela was frowning at her hands. "Six hundred and twenty megatramos per pennyweight," she said. "Why do you suppose he came up with that number?"

"This is a shipwreck market. Everyone in here is offering prices they can't justify for things they can't name."

Martisela shook her head; that wasn't good enough, but she was too busy to explain. She began flipping from catastrophe to catastrophe, so fast I could barely keep up. She had this frown of vast interest that just got deeper the more she looked.

"Perhaps it is coincidence," she said, "but 620 megatramos was the estimated price for lyghnium a week-and-a-half ago, when Esteban left on his last run."

"What are you saying? Esteban left me with a load of lyghnium?" I was not so happy about this. Up in the Scatterhead Nebula, the Philistines burn lyghnium in fission bombs. I saw myself dealing with a dreary assortment of zealots and thugs. You've seen what they're like. Imagine my heart.

"Don't worry about the lyghnium." She narrowed her eyes at a cursor as it rolled down the crown of her knuckles to a stasis-point near the crook of her thumb. "Zuniga's a dealer in decay products. When he looks at the market, all he sees is what he recognizes. But he tends to miss the parent isotope, which, in the case of lyghnium, is most likely to be . . ." She turned her hand as the cursor crossed through the cusp of skin between her thumb and index finger. Whatever she saw made her eyes get round. "Pterachnium," she whispered. "Vacuum^3."

I felt something giddy rise in my throat. Half the fleet communications in Spanish Space depended on tuned singularities. Most of them were collapsed from white dwarf stars by Vacuum^3.

"This is what those two *gabachos* at Chuy's were after." I heard a voice just beyond my sight: *No more tutorials for rich tourists. . . .*

"This is what killed Esteban," she said. "Esteban and everyone on his ship. I can't believe we're trading this. I can't believe we're making money from it."

"You know what this means? We're rich enough to kill! You know how long it's been since you and I were rich enough, somebody would want to kill us?" *No more money changing for Chinese smugglers. No more laughing along with jokes at my own expense.*

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Martisela made this bemused little moue. She looked as if she wanted to say something. Whatever it was, she let it drop. "Zuniga still has his fangs in you," she said. "He will never allow your profit to eclipse his own. Not so long as you and he are yoked together." She was quiet for a moment. I realized she was watching him as he made his way back from the patio.

Zuniga stopped at one of Señora Sebastian's glass cases. He pointed—there, to an apothecary bottle of rose hips. There, to a brass censer. Here, to a set of bifurcation grids, pre-loaded in their own epidural slugs.

I knew what he was doing—giving me time to sweat. It worked. I tried to think of some way of extricating myself from his grasp. Nothing came to mind.

Zuniga pointed to a scarab-skin jacket hanging from a rafter. But no, it had to be open weave, to match his shoes. All the Anglo gangsters were living on the edge, fashion-wise.

While Señora Sebastian hurried off to retrieve just the right shade of blue, Zuniga slipped out his currency marker for a couple of quick deals. He was feeling good; he was clowning. He looked up at us as if he'd only just remembered we were watching. He grinned his most boyish grin—*I've got to pay for this somehow*—and began punching out sell orders as if in panic.

"Some people should stay away from self-parody."

"How does he do it?" She marveled as she watched. "How does somebody with even less money than we have manage to push around the market the way he does?"

"He leverages himself to excruciating levels and then drums up some new deal to pay down his debt load."

"And let's don't even talk about those suits." She made a face.

"Zuniga and his little gangster conceits."

Something behind her eyes made this nearly audible click. "What would you bet he pays for everything in anti-money?" I got nervous when Martisela talked about anti-money. Gangsters still use it. They like it because it is anonymous. Martisela liked it the same way she liked chocolate, because she wasn't supposed to have it. Anti-money—more specifically, speculating in the misalignment between anti-money and the debt it was supposed to represent—is what got her installed in the Convent Santa Ynez.

"Don't do it," I said.

"Do what?"

"Whatever. Don't do it."

Her eyes were black and shiny like I'd seen them in the old days. "How much are you willing to be hated?"

"By Zuniga? You're joking, right?"

"Not by Zuniga. By everyone." Martisela had this little look of dread and wicked calculation. It made me nervous enough I would have asked what she had in mind, but Zuniga was one last dawdle from being upon us.

"What do I need to do?"

"Sign everything you own over to me."

Perhaps I paused a beat too long. I was thinking of my winery in the Four Planet Nation. The tea plantation on the flanks of Olympus Mons. The beach house at Santa Jessica that I'd never seen. Martisela leaned her cheek to her collar. "I'm a nun," she said. "Vow of poverty, remember?" What I remembered was that we were always better business partners than lovers. Somewhere along the way, those little pranks we played had turned expensive.

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"You remember the vow of poverty is yours, not mine."

Martisela didn't even smile. She palmed my currency marker and brushed by Zuniga without a shiver. Zuniga never even looked at her, she was that good.

"Sorry to push, Hermano." He gave me his best little frown of sincerity. "But I've got to wrap this business up."

He tugged at his collar enough to show me this greenish smear along his left shoulder.

"I bought this open weave jacket a month ago. Everything stains it, and now look. I stood too close to one of those lizard trees and one of the little bastards rained down on me."

Well, that explained the smell. At least on this occasion.

I glanced over Zuniga's shoulder. Martisela was with a pack of currency traders, buried in some negotiation. She made an impatient nod at Zuniga—*keep him talking*.

I was thinking to interest him in some bogus hedge swap. Maybe involving this Object-Oriented Socialism I'd heard about in the last market fixing, along with that black hole mine they had riding sidecar. That had just enough of Zuniga's devious sense of value to keep him interested.

I mentioned it and he gave me a vile little chuckle. "A hedge swap?" I could see it appealed to his sense of the perverse.

"I'll give you the same deal you gave us—620 meg per pennyweight."

"Mined lyghnium 482 is going for 800 meg per pennyweight," he sniffed.

"Then why were you going to pay me 620?"

He waved my objections aside. "Really, Coria. Let's be serious with each other. The gravity brokers are all aflutter looking for some fusty little dwarf star they can collapse into a singularity. I ask myself—what alters the Coulomb force inside a dwarf star and shows up unnamed in all my market equations? What do you say, Coria? Vacuum^3? Vacuum^6?"

Even through the crowd noise, Martisela heard him. I saw her stiffen and close her eyes, just for a moment. Zuniga caught me looking. He laughed. He clapped me on the shoulder. "There are no secrets from Zuniga. Holding back will only make the reckoning more severe." To make his point, he brought up his Anglo friends in the expatriate community. It seems that someone had given them a floor plan of my distillery outside Bougainville. Perhaps someone would nationalize it. Perhaps they would simply burn it down. Zuniga gave me a look of frank appraisal. From there, it was but a short conceptual leap to the man who owned it.

I may have disdained Zuniga, but I did not underestimate him. The expatriate community lived just across the bay, in Jimmy-Jim Town. No one's more vulnerable than a broke commodities trader. I was starting to think how I could explain a 400 megatramo deal to myself when Martisela caught my eye. She lofted her eyebrows in a breezy, insouciant manner, like a tourist enjoying a particularly bad part of town.

Zuniga was going on about my tea plantation in the French Violet. He wanted that especially.

Even as he spoke, currency windows were popping open in a line just beyond his vision. While Zuniga had been threatening my wealth and my life, the anti-money market had gathered itself into a precipitous wave. Some of this would be my assets, sold off and converted to anti-money. Most of it would be collateral investment from market technicians smelling blood in the water. Zuniga didn't know it yet, but he had become the biggest holder

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of anti-money on the entire Exchange—a position not unlike being the biggest landlord on a southbound iceberg.

He was just rounding the corner on my beach house when Martisela pulled the plug. All that anti-money was swapped for simple debt futures. From where I stood, it look like half the anti-money market drained down a black hole. Even by the Exchange standards, this was a lightning strike. Within moments, the exchange rate between anti-money and undifferentiated debt had slipped to 3-to-1. The only major players left in the anti-money market were the ones too preoccupied to see what was happening.

Zuniga was going on in his mellifluous announcer's voice. His Anglo militia friends had shown him things that no one should see. Zuniga was just beginning to detail these things for me as one of the Botanica's well-dressed floor daemons appeared at his side.

He carried no expensive scarab skin coat, nothing but the obsequious expression that seems to attend embarrassing news—*There is a problem, Señor? With Señor's account?*

Zuniga smiled, all incredulous. He glanced over the man's head at the money market windows and the smile just grew. He could appreciate a joke at his expense, give him credit for that.

The smile was hardening as he turned to me. By the time it came around to Martisela, it had gone necrotic as a rotten baby tooth.

"You did something"—jovial and teasing as ever. "What have you done with my money?" His eyes fell to the grids on her arms. A cursor was still pulsing between her knuckles, perhaps he recognized himself? "Give me back my money." He advanced on her. Already, he was a little desperate. I grabbed him around the shoulders. "Give it back. Before Zuniga shows his nasty side."

"Let him go," Martisela said to me.

"You know who my friends are," Zuniga bucked my arms. "Don't make me set them on you."

I thought Martisela would at least step back. Even as Zuniga strained at my grasp, she pushed up right under his nose. "You and your nasty friends," she whispered. "I shall have to bear them in mind, won't I?" Suddenly it was Martisela I had by the shoulders. Zuniga was rearing back. "My friends don't fare so well lately. One of them is burned to death. The other is living under a bridge. Maybe your nasty friends will let you live long enough to find a bridge of your own. If you haven't invested too much of their money. That would work well for you, yes? A nice little bankruptcy and you will escape their friendship with your life."

"Don't speak of my friends," Zuniga said. "I'll set them after you. I'll have them use you."

"With no money or access to deflect their more predatory instincts? I think you're about to discover just how useful *you* can be." Have I mentioned Martisela's height? In shoes, she could barely see over my shoulder. The entire time I had hold of her, Martisela's voice never rose above a whisper. The room should have rolled over her voice like a wave over a sand castle.

I glanced back to see a hundred faces turned up from their market projections and catastrophe grids, all staring from Zuniga to me to Martisela and back to Zuniga.

Zuniga noticed as well. He turned on them. "Que me ves?"—*What are you looking at?*

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This seemed as good a moment as I would get. I handed him my currency marker.

"What is this?"

"It's 500 megatramos. For your salvage."

"You're not serious. I consolidated these salvage holdings, not you. Why should I play this game?"

"You've got lizard shit on your coat. You want a coat, smells like lizard shit?" And the unspoken question—*when will you get another one?*

He looked at the platten in my hand like it had been scraped off his coat, but he knew better than to refuse my offer. His lips tightened into a sarcastic smile. The joke, whatever it was, must have been on me. He might have explained except for the floor daemon who appeared at his elbow with a phone call for Señor Zuniga.

"Now we'll see!" Zuniga whipped the phone from the kid's hand. I would have walked away, but Zuniga would have none of that. He nodded at me as his gangster came on the line. He glared in vindication. "Señor Dryden." He was laughing. *¿Que ondas, Carnal?* The smile hung on his face a moment, suspended like a cliff diver at the top of his arc.

This would be one of those conversations of silences, stuttering objections, pale eyes, sentences that trail off into nothing. At some point, Martisela nodded toward Zuniga's hands. What I had taken for knots of anxiety were actually mathematical catastrophes.

"He shouldn't do that." She made this little snick-sound with her tongue. Somewhere between pity and reproach. "He's calculating the moment of his own death," she said. "If he's not careful, he'll get an answer."

I don't know how she knew that, only that I had watched him re-run this calculation a half-dozen times. He ran it again even as Martisela pushed me ahead of her through the curtain.

Sooner or later, it had to come out right.

It was evening on the Calle de Campana. One of those evenings the city is most generous with its charms. A chill settles in with the fog. The pumice tiles that line the street swell and chafe and the air fills with the most delicate harmonics. A gang down at the paraffin depot was boiling moderator for some space-bound transport.

Esteban's family lived in one of those heritage neighborhoods that creep down the sides of every bridge in the Paraffin District. Their house had been built by a ship owner when the Puente de Hierro was new. The vestiges of wealth remained even though the wealthy ship owner was gone: Here's a formal VR portal, throw rugs rucked up around it. A genuine captain's command chair from the wreck of the *Four of Pentacles,* its cushions shiny with wear. And everywhere, the reek of old cooking, the racket of kids slamming up the narrow stairs two and three flights without stopping. The shiver and groan of the bridge itself, as river traffic passed between the spans.

Someone had put out a card table in the old decontamination chamber that fronted the street. Esteban himself peered over the mezcál flasks and ornaments of pressed tin. I remembered the picture from a bridge party we had been to across the canal in El Ciudad de Cenizas. Esteban had that look he always had, that sort of half-smile, as if he were listening to a punch line just beyond his understanding.

"Orlando, who's with you?" Cynthia Contreras called to us from the

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kitchen. "Martisela Coria? *Ay Dios mío.* I can't believe they let you out." She was wedged in between relatives at the back of this giant mahogany heirloom table. She waved us over for hugs. Her eyes were pink, but, for the moment, dry.

My impression of Cynthia Contreras through six years of marriage was this kohl-eyed wraith at Esteban's elbow. In a better life, she might have raised a couple of picked-on kids and gone on to spend all her pent-up rage closing *lucha de la lagartijos,* something socially uplifting like that.

But this widow business would not be part of her plan. I was not entirely sure I wanted to see what she made of the opportunity.

Esteban's brother, Jorge, sat with her, maybe a little closer than a brother-in-law should. Jorge Contreras always greeted me with this frown of vast and belabored interest. A dimwit's caricature of a philosopher. "Orlando Coria," he said. "The Lucky Man himself." He glared all protective as I put the contract on the table beside Cynthia. I did what I was always do with Jorge; I ignored him. He continued to frown inscrutably. Maybe he was ignoring me as well. "This was Esteban's," I said to Cynthia. "It represents a great deal of wealth, and has to be handled quickly."

She knew what it was, which surprised me. Jorge pestered her to explain and she ignored him while she read to the bottom.

"Do I own all the rights?"

"It's all tied up," Martisela said. "The baryonic matter rights. The vacuum state."

"What about the isotope rights?" Without looking up. "Do I own them? And through how many decay plateaus?"

This was a sore point. I wasn't sure what she had cooking with Chamberlain and Bell. Once upon a time, we had actually owned the decay rights to this pterachnium, extending down to lyghnium 485, at least. Though we were asking a lot more for it then the 620 meg that Zuniga had offered us. No point going into all *that* mess.

"We've had some trouble pinning down the isotope rights," Martisela answered quickly. "That hardly matters so long as the pterachnium is sold off."

"And you have buyers for this stuff."

"Lining up buyers is the easy part," I said. "Bright Matter fleets from Buenaventura to the Four Planet Nation are salivating for a tuned singularity."

Martisela, as always, was out front of the market. She set her investment portfolio on the table with a little flourish. She was ready to hedge Cynthia Contreras' profits across the breadth of the communications market— A little to the designers of the event-horizon skimming satellites that put all those quantum-entangled photons in orbit. A portion to the enclave of Jesuit electrical engineers who fashioned the polarizing screens that spun those photons into code. A portion to the shipwrights who installed the answering micro-singularities onto the ships. Any one of these markets could tank and a flood of investors would buoy up the other two.

Cynthia Contreras flipped through the printout. She nodded. She smiled. She was impressed. Then she said, "I'm thinking of investing in Buenaventura municipal bonds."

"Municipal bonds." Martisela looked up at me. "*Municipal bonds?*"

Cynthia Contreras did not look up. "What do you think, Orlando?"

She was turning her back on a 2400 percent return and a perpetual reinvestment for municipal bonds.

"I think you're crazy."

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That only made her laugh. She leaned toward me as if we were plotting an assassination. "Have you seen the debt market in the last couple of hours?"

"Debt market?" I felt Martisela's fingers dig through my pant leg.

"About two hours ago, someone inflated the debt market—I know, I know. Why would anyone do that? But they did, till it's as over-valued as it's ever been." I felt this electric tension at my side. "Say I put part of my money into Buenaventura bonds," Cynthia said, "which, by law, have guaranteed lines of credit. Say I put the rest into shorting the debt market. When the debt market crashes, I'll be sitting on a couple teratramos in saleable debt potential."

Martisela looked to me to say something. I would have, if she hadn't cut me off before I could draw a breath. "I think you misunderstand the nature of strategic investing," she said carefully.

Cynthia frowned. "You think it won't work?"

"There are people sitting at this table who will be ruined by what you're proposing."

"Esteban's true friends will understand and forgive."

"It's a sin," Martisela said. "To ruin people when you're not even hungry."

Cynthia had this laugh she'd been saving up for six years, knowing and angry and disappointed. It made the hairs bristle against my sleeves. "Perfect," she clapped her palms like a little girl. "*Perfect*." She looked past us toward a man leaning in the doorway. "They're worried for me," she said to him in Cargo English. "For my future, or my soul. They can't decide."

"Look upon it as a challenge," he said. I recognized the lazy smile even before I recognized the face. Here was the little Anglo I had seen at Chuy's.

"Hola, Cholito." A finger came up, pointing my way. He cocked his thumb, ray-gun style, *Prssshk prssshk*. He laughed his lazy laugh.

"Everyone?" Cynthia Contreras waved a hand: "Noah Dryden." She made no further explanation, but that was explanation enough. We all lived with expatriate Anglos. We could pretty much guess what this one was doing here.

Dryden nodded at me. "How's the commodities trade?" he said.

"Never better. How's the smuggling trade?"

"I'm afraid you have me confused with someone." He smiled. "I'm in franchised socialism."—Even as his left hand rose by dead reckoning to the fourty-eight yuen strung from his right wrist. "You mean this?" He laughed. "I've had this since childhood. But these bracelets are hardly uncommon where I'm from."

In the dusky light of the kitchen, the eyes glowed bright enough to light the unmarked underside of Dryden's wrist. Cynthia knew where I was looking; I thought she would look away, but her course was set. She didn't much care what I figured out now.

"What did this one promise you?" I asked her. "Revenge on the men who killed Esteban?" Cynthia said nothing. "And now that he's brought proof of their deaths, you turn over Esteban's pterachnium to him as payment."

"He seems to know a lot about my business," Dryden drawled as casually as possible.

I would have asked Cynthia about the isotope futures she had sold Chamberlain and Bell. What was it like to lure two men to their deaths? Cynthia turned to me with these huge and meaningful eyes; all my pointed questions dried up in my throat.

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"They're friends of my husband," she said to Dryden. "They won't go to the Shoes. They have their own problems with the law right now."

As for Martisela, she nodded at Cynthia the way old girlfriends do—*where did you find this guy?*

Cynthia, for all her veneer, could not look Martisela in the eye. "He helped me," she said to Martisela. "He helped me even the score for Esteban."

"For a price," I said.

"Everything has a price," Cynthia said. "One way or another, everyone pays."

Dryden nodded his amen to this. "Bell and Chamberlain were a couple of over-reaching franchisees," he said. "Their accounts have been settled."

"*'Settled.'*" Martisela gave me an owlish look. "Doesn't that sound final."

"Let him be," Cynthia said. "It's been hard enough getting things sorted out to my liking. I don't want anybody having second thoughts now." She gave me two eyes like steel bearings. "Esteban was hopeless." She tilted her head at me defiantly. "He left it to me to avenge his death. A trader shouldn't leave his family to do that. Not if he has command of his skills. Not in this market."

An odd sentiment coming from a widow. Even Jorge frowned. But Cynthia Contreras was in that state of grace that Buenaventura bestows on all its widows. Everyone around the table nodded along, the way they did to a pretty song sung in Cargo English.

Only Martisela lowered her eyes in disappointment. "Esteban Contreras filled your house with friends," she said.

"Esteban always trusted people to do the right thing. He made allowances. Look at where he left me." The emotion she had been holding off welled up. She blinked hard at sudden tears. Her chin wrinkled and her face reddened. Jorge saw his chance to move in with sympathy, but Cynthia was angry and pushed him off. She took Martisela's arm. "I'm going to be like you."

Martisela looked down at her habit. But it wasn't the cloistered life that Cynthia envied. Martisela looked back up at her and she realized what Cynthia was talking about; her eyes widened and she gawped for something to say.

"I'm going to be ruthless and clever," Cynthia said. "I'm going to play the market like an ocarina. I will always finish at the money. And if I go down I'll take a billion people with me. So that even if the Shoes put me in the Convent Santa Ynez, and make me ride Bright Matter ships for my penance, nobody will trade another share without looking across the bay to see if I'm still safely away."

I remember someone cooking carne borracha on the river watch that ran behind the house; the splash and sizzle of tequila was the only sound in the room. I remember Martisela trying to say something, only it wouldn't come out. She sat next to me, and she was beyond my reach.

It was Jorge who stood up first. "My, doesn't that smell good?" He grinned and nodded around the table and everyone gratefully agreed. *Why, yes. The carne smells delicious. Let's all go have a look.*

This wave moved toward the door. Only Cynthia Contreras paused, and then only for a moment. "People pushed me around all my life," she said to me. "A person like you, you can't know what that's like." She looked to me to tell her she was making sense.

"Dryden murdered two faithful-and-trusting-employees," I said. "Just to do business with you. Don't you wonder when *your* time will come?"

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She gave me a bashful smile. "Honestly? No." Behind her, Jorge had Dryden's arm in this squeeze that gangsters in the Paraffin District give each other. He was detailing what he would do to Dryden's enemies, extending his hand here and there as if setting out tools. Dryden glanced up at me as he passed. His face was fixed in horror.

"Jorge likes me," Cynthia said simply. "He's always liked me." The screen slapped behind her.

Martisela sat back beside me. She folded her hands between her knees. She looked dazed.

Somebody walked past with a bag of wine. She snagged it without looking. She leaned back and drained it. All around us, the conversation sort of died out; people do seem to tip-toe around a half-potted nun. The man with the wine bladder shook it for signs of life. He looked appalled. Martisela seemed oblivious, but I got uncomfortable. I nudged her and motioned toward the front door. *Maybe we need some air?* She agreed, maybe we did.

I didn't expect we'd be out long. The wind was turning. The fog was coming up from the wet docks, glowing faintly in every hollow along the canal. But Martisela was one of those people who wondered why red wine had to be sour. I thought to stick with her a bit, she'd get sentimental and ill and I'd take her home.

Cynthia Contreras called out something as we stepped outside. I thought she was asking us to stay, but I realized she was talking to Dryden.

"Look at this contract. Nine hundred pennyweight and you're getting it for nothing—1.5 teratramos, and two lives."

I looked at Martisela. Maybe she sighed.

"Amateurs." I tried to laugh.

"She didn't make this city." Her eyes came around to me from someplace very far away. "Have you ever counted up the people you and I have betrayed?" She waited, but I had no answer. After awhile, I realized she had no answer either.

"The debt market is not your fault. Let it go." I nuzzled her ear, just like old times. "Come home with me," I said. I knew an old high-boy tugboat drydocked on Canal Sanchez. It was warm and private and I pictured us making love in the pilot house, under a parchment-colored sky.

Martisela was tracing the grids on her left hand with her fingers. "What if we got jobs?"

I thought she was joking. Martisela had this clownish streak to her, but she was drunk right now, and she was never funny when she was drunk. "We've got jobs," I said. "We're the best team of traders this city's ever seen. Tonight, we reminded this whole city why they've had spending money the last couple of years."

"What if we got a cart and sold shaved ice on Calle de Campana? You could talk to the customers. You're good at talking to people. And I could put away the money?"

Shaved ice. I liked that. Shaved ice. This, from the girl who had rigged an entire monetary system in the space of a conversation.

"You know when you're making too much money? When poverty starts looking picaresque."

She bent away from me. Her hands twined into a figure I recognized: Swallowtail Catastrophe. She was plotting a discontinuous change in her own future.

"You're going back to your sponsorship," I realized.

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"I'm so washed up in this town." She made a broken little laugh. "I can't even sell an investment to a poor widow woman." She rolled her lip under her teeth. She looked away. "You should have seen me. I was doing so well when you showed up. You know how long it had been since I'd told a lie?" She took my currency marker out of my pocket to order up a water-taxi back to Santa Ynez.

She didn't even see what was staring at her from the splash screen—something was wrong with the market. It should have been going wild, it was utterly flat. I tried to show her, but Martisela was drunk and heartsick and not listening to what the market was saying. I had to take her hands to make her look at me. "The reason Cynthia Contreras passed on your ancillary market is because there is no ancillary market. Whatever this Dryden person is doing with our pterachnium, it's not bankable."

Not bankable. There was an antiseptic phrase. I remembered the market report of the *Hierophant*'s port vane. Acres of cesium and cobalt showered by neutrons and swept off in rivers of molten metal. You want to say such visions are "unimaginable." But they're not. Sometimes they're impossible to look away from. "Wait a week," I said. "Let this pterachnium decay before you go out."

"And in that week, what happens? Maybe Dryden hotloads some other ship? With some other sister in my place?"

"Maybe—" I could hardly get the words out of my throat. "Maybe I make you stay with me."

She looped her arms around my neck. Her lips and nose were soft. Her breath, luscious and stale with wine. "Maybe you rescue me."

"I'm in no position to rescue anyone. Already, everybody at the Botanica asks what happened to me. They soothe me with cheap flattery like a *cerrazadito.*"

"Maybe we rescue each other." I could see it in her eyes: Me and her and this pushcart.

"Is that what we're talking about here? Are we saving my soul?" She gave me a sleepy grin. "If your life depends on my redemption, you are one dead Hermana, *Carnala.*"

We always talked so tough with each other.

"Don't go," I whispered. "Please." Perhaps you don't know Orlando Coria, and this pleading sounds genuine, yes? And that wetness to the eyes, *a nice touch.*

Martisela's taxi slipped out from the shadow of Puente de Hierro.

"I'll call you when I'm away," she said. I couldn't believe she would really leave. We'd brought this city to its knees, helped a helpless widow, and faced down the big *guero.* How she could do this?

"Leave a message if I'm out." If she hoped to gain some advantage on me, well, she hoped in vain, didn't she? If she put her palm to her mouth or offered a little wave, I barely noticed. I had lots to think about. I had my commission, 10 percent of 1.5 teratramos. I was a man of substance now.

I remember checking my currency marker to show her what she walked away from. I don't remember the amount, but it was an awful lot of money. Enough so that my life would never be the same. It was enough to make me feel vindicated. Funny the way some moments stay with you.

As for the jingle of the buckles on her sandal straps as Martisela turned away? Five years later, I barely remember the sound. I have my pride.

* * *

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The night tends to blur after that. I remember walking the apron along Canal el Centro, talking to myself, feeling righteous.

The fog was in, lit from the heart by radioactinides from the ships in the wet docks. People move indoors to avoid Buenaventura's wet dock fog, but I held off. Right around sun up, the ferry would leave the launch site at Malecón de Viejas for the low orbitals. I was thinking to maybe go see Martisela off. I was thinking to maybe invest in a bottle of mezcál and drink myself to stupefaction. Decisions, decisions.

I absolutely was not going to worry for Martisela. Señora Pushcart. Señora Let's-Sell-Shaved-Ice-and-Look-Like-Fools-to-Everybody-We-Know. I would start to weep and then I would make myself remember her plot to save my soul.

When that didn't work, I told myself her fate was out of my hands. I was a trader, not a gangster, what could I do? Fill my hand and confront Dryden in some alley? Please. Buy back my pterachnium shares from him? There were Bright Matter consortiums who couldn't put together the money to buy 900 pennyweight of pterachnium.

I found myself arguing the point with Martisela, a frustrating business even when she was around to answer me back. Tonight, she was regal and indifferent to her own fate, which infuriated me more.

Just to press my point, I added up all our assets—the fee from the pterachnium deal, the illyrium futures, the tea plantation, the winery and distillery, the beach house, the money, the anti-money. All of it. I came up with enough to buy back maybe a third of Esteban's legacy.

But why stop there? I still had some stock options left over from the takeover of Coria Bright Matter. I pulled out my currency marker to check their price, though I knew they were worthless. I think I barely looked at the 10:32 market fixing and shoved the marker back in my pocket

It took me that long to realize what I had seen.

Coria Bright Matter was in play. Noah Dryden was shopping our remaining assets through one of his black hole mining companies, doing better than I had imagined possible. Indeed, he had financed a good chunk of his pterachnium money on our tailings. I tried to remember just what we had owned that could be worth 620 meg per pennyweight. Dryden had a man waiting to answer any questions.

His name glowed against the shadow on my palm. I studied it, because I had to keep my eyes focused on something stable; the landscape was resettling all around me.

It was my friend, Alberto Zuniga—the man who so admired my taste in exotic vacuum states.

I don't want to tell you what I did then. We have friends, they won't speak to me even now. I have people looking to kill me, did I mention? With all the moral baggage that goes with being me, you'd think I would reap a few of the more temporal rewards, wouldn't you?

Dryden was up at Puente de Hierro, waiting for the lift-off from Malecón de Viejas. As I knew he would be. He had to weep a little before he sent people to their deaths. Made him feel more like a human being.

He never looked back at me, though he knew I was behind him. Without preamble, he said, "I must confess I'm leaving for Bougainville in a few hours and I'm panicked at the thought of going without those little candies. Those little—what are they called?"

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"Piedras de molleja."

"'Piedras de molleja.'" He smiled at the name. "They remind me of your wife, you know. That hint of sweetness forever out of reach?" Of course, he would know what I was here for. He took my shoulder under his hand and we started down the bridge toward the ferry landing on the far side. "I'm sorry about your wife," he said. "You have to be strong. If she dies, it is to alleviate the suffering of millions of others."

"Shut up about my wife." I smiled; I had decided this conversation would remain friendly. In any case, I had come to talk about something else. "It was your idea to leverage Esteban and myself out of our own corporation."

"We may have collateralized a few of your assets. I would hardly call what we did 'leveraging.'"

"I've always been curious why somebody like you would take an interest in a tiny corporation like Coria Bright Matter. Alberto Zuniga told you about our lyghnium shares. Didn't he."

I had found something amusing for him. "It was your friend Contreras that he told us about. A good morghium designer is hard to come by. The lyghnium has turned out to be a bonus."

For a moment, he seemed uncertain how much he wanted to go on. Oh, but here was a man in love with his cause. He had no enemies. Only prospects.

"We have this wayward franchisee," he said after a while. "This man, del Cayo. He purchased a lot of very expensive ideology. Refused every decent overture of repayment. When we pressed the matter, he generated the money to pay us by pumping up lyghnium production at all his ergosphere mines throughout the French Violet—so much lyghnium, he caused a collapse in the market."

"So, you turn our Bright Matter ships into missiles. And you shut down his lyghnium operations. Permanently."

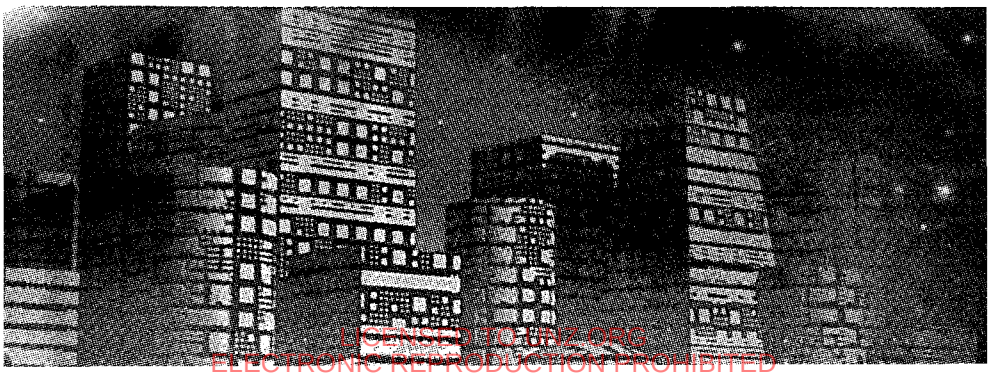
"He's put a quarter-billion people out of work. He's used our ideology to sanction a civil war against his brother. Killing . . ." He waved his hand at some unconscionable number. He had that faith shared among Anglos that anything can be forgiven. God's own attorneys, those people; anything can be mitigated in the light of something worse.

"You must be nervous right now."

"It's a big night for us," he admitted, breathless as an ingénue.

"I mean, you must be nervous putting all that lyghnium back on the market." That *is* how you paid or your pterachnium isn't it?"

He peeked up at me through his eyebrows, impish in his guilt. "We fudged a little. What we sold were options on lyghnium futures—the same contracts we acquired from Coria Bright Matter when we bought you out. Lyghnium 485." He shook his head in amazement. "I'd still like to know



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where you got that stuff. It must be decayed half to lead by now, which is a singular shame."

"You're going to substitute 482 from one of your mines."

He put up his hands, *what can I do?* The problem would come when Dryden's creditors called in those 485 options; there would be trouble even if they accepted Dryden's isotope for our own. Putting 900 pennyweight of lyghnium on the market would devalue the price another couple of kilotramos at least. I could see that chewed at his conscience in ways that killing another Bright Matter ship did not.

But I had good news for Dryden's conscience.

"You are in a unique position to fulfill your lyghnium 485 contracts," I said. "You own the parent isotope."

He started to explain to me about binding energies versus repulsive electrical charge, and the limitations of naturally formed nuclei. He stopped. He gave me a cautious, sideways look. A little smile. "What did you say?"

"Lyghnium 485 decays down from pterachnium. You borrowed the money to buy your pterachnium using its own isotope futures as collateral."

He thought about that. His eyes grew narrow, and then very wide.

"It's called a market loop," I said. "The way Martisela set up ours was very deliberate, with an exit strategy close to hand. And we were careful about who we brought in downstream. You bought into her market loop without ever realizing. You used it to borrow from some of the biggest brokers on the Exchange."

He turned on his heel to look back up the path. He might have been looking for a way out. He might have been looking to see if anyone else found me as amusing as he did.

"So what then? We compounded your larceny with a few innocent mistakes. What are you going to do?" He laughed. "Call *Los Zapatos?*"

"Better. I called all the people holding paper on your lyghnium." In the dusk beneath the bridge, Dryden's face took on the pallid glow of a drowned isotope. I could have read my watch by the reflection. "Not to worry," I said. "I have assumed your debt. No need to thank me."

His first move was for something in his waistband.

"In the event of my passing, my assets go to Señora Contreras."

Dryden had spent the evening with the delightfully ruthless widow. His eyes widened at the mention of her name. His hand fell back to his side.

"There is a bright side," I said. "I've got a buyer. A mining engineer five light years down the Hercules Vent, looking to illuminate veins of tungsten ions through the Nautilus Nebula. We'll need precision-speed transportation to get the lyghnium to him before it decays. But I've got a pilot who does her best work just below light speed. She will milk those time dilation effects for all they're worth."

"You're giving us five years to get out of the lyghnium business."

"Under the circumstances, I'd say I was being generous."

Dryden had this caustic laugh of amazement. "You're talking about some of the poorest economies in the Scatterhead Nebula. Speculators will short them into currency devaluations. Governments will collapse."

"What you get for bothering my wife."

He put up his hands in this placating gesture I've never seen anyone make but other Anglos. "We made a decision." He put up his hands again. "A *painful* decision—to put the lives of the many before the lives of the few. I know this is hard for you to understand—"

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I checked my watch. "You have four years, four hundred and ninety-nine days, forty-nine hours, forty-nine minutes."

"I've seen your portfolio. You're heavily invested in these currencies. You will go down with them."

"Forty-eight minutes."

"Señora Contreras may lose interest in market speculation. Then where will you be? You're just half-an-hour across the bay from Jimmy-Jim Town."

I could see the conversation turning petulant. Besides, Martisela's ship would be leaving soon. But I wanted to leave him with a memento of his time among the Spaniards.

Dryden hefted Esteban's perbladium sample, smiling his rigid smile. "So what is this stuff exactly?" Proud to the last.

"Spanish version of a crystal ball. Gaze into it awhile. You might just see your future."

A deep-water ferry was passing along the canal toward the bay. I had to sprint to catch it. I'd like to say I never looked back, but really, it was a freighted moment.

I have this lasting image of Dryden. He is leaning over the rail, chucking Esteban's perbladium in its leaded sleeve and staring toward the gathering dawn as if surprised by the light.

I have seen him since. He seems to have taken the blame for the collapse of the Scatterhead Nebula economies. Maybe he should have killed me when he had the chance. He's a front man for the National Socialists these days. Or some tiered-market business operated by the Communists. Whatever, I lose track.

I have acquired this cachet. Paradoxical, I know—I am the cause of eight billion tragedies. But infamy is a commodity like any other. It requires less promotion than heroism, though it helps that I went broke along with the eight billion residents of the Scatterhead—and for love no less. Heartbreak is only slightly less compelling than villainy.

As for the money? I could tell you I don't miss the money. You might laugh. I will tell you that there are compensations.

I savor the memory of Martisela on the dock at Malecón de Viejas. The boarding bell is ringing, and we're arguing. Heatedly. And this old grandfather slides in close to hear tales of drunkenness and cruelty. I remember the look on his face as he realized we were fighting over the destruction of worlds.

I remember Martisela's face against my palm.

I remember her kiss.

She has arrived in Bougainville. She speaks of this faded rose of a city. Talc-white streets and arsenic-tinged chocolate and the reptile opera. Her note is a bit tentative. She's reaching across five years. That last good-bye on the docks at Malecón de Viejas, she did tell me not to wait for her.

I suppose I'm nervous as well. She remembers a clever young man untroubled by conscience, who lived behind the kiosks on Borregos Bridge and toyed with worlds.

What will she think of the man he became? The canal-boat pilot with friends and bills in about equal proportion?

I may leave for Bougainville and be gone forever. I may be back in a week. But right now, I am breathless with anticipation. Do you know how long it's been since I was breathless? ❍

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THE WEREWOLF AGES

Because his ears peak
and the hackles still rise
at the sound of a fight,
his or not,

and because no bitch passes
however far downwind
without pulling his nose
into the breeze
to gauge the days remaining
between her and her heat,

because lame as a beggar,
he cannot run in the pack
with his sons
without running lead,

and because, out all night
and coming home wet
& matted with excrement,
he still expects to be petted,

she is forced to conclude
that a beast grows old
but he never grows up.

—William John Watkins

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WHEN THE IGHT IS COLD (AND THE ND IS DARK)

Peter T. Garratt

Illustration by Mark Evans

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Peter Garratt lives in Brighton, UK, where he works as a clinical psychologist. Mr. Garratt has been selling short fiction since 1985. He mainly writes SF, but has also published mysteries, historicals, and cross-overs, such as Shakespearean whodunits. The author is fascinated by the Arthurian legends, with a special interest in the history of the period and archaeological discoveries that throw light on it. His first US sale was a reconstruction of Arthur's battle-listing poem. His last story in *Interzone*, featuring a Welsh/Connecticut time-traveler, was a tribute to Mark Twain. He is currently trying to market a novel about crop circles.

"I hear you are wiser than he is now, or at least more cunning. So, Vivienne, if your master is . . . unavailable . . . you can answer Emperor Arthur's question."

I was cornered by my need for knowledge. The more I learned, the less able I felt to equal my mentor. The messenger was well chosen: Peleas, my old friend, my sometimes lover, who could just understand that, to me, getting wisdom had been more important than becoming his wife. He would escort me to Camelot safely, but would not allow me to avoid this duty I was unready for. Though no longer so young as I contrived to look, I *felt* young, and as unprepared as the Court would expect any woman to be.

There had been a poor harvest and a dark winter. The spring was unseasonably late. Men stared at the clouds and poked the icy ground, wondering when they would be able to sow. Priests spoke of hardness in God's heart, caused by the persistence of the unspeakable rites of the Druids, while Druids muttered that the Earth was frozen with sorrow that the old ways were neglected. I needed Merlin, for I, who could not aspire to be priest or Druid, had no wish to chose between them. I knew of no explanation for such weather, save the mutterings of the Saxenach priests, who say the world will end with Ragnarok, winter without end.

I tried to tell Peleas that Merlin might soon return, though I gave no promise.

"You can't tell me he runs wild in the woods in this . . . freakish winter?"

"He does. Yes, he's old to be the wild man, the Shai Man, but it's his way!"

Peleas wanted to trust me, but his loyalty lay elsewhere. He said: "If your years studying here have not been wasted, you'll come to court and speak in his place."

I was born in Viraconium, the White Town, where men live as they say the Romans lived, a hundred years ago. It was a place of wooden churches and the ruins of great stone temples. My parents paid with a gold cup and two precious books for me to go to the school. The teacher was Dubric, a priest without a parish. He taught boys for charity, but not girls. I, Vivienne, was almost the only one. He told us that evil had entered the world through the temptation of Eve and her seduction of Adam. He called this the Fall, though everyone else spoke of the Fall as the time before the Warlord Arthur, when the Romans left and barbarians ravaged the country. It was

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then that I started to doubt the word of men who speak for God, for the raiders who destroyed the works of Rome had not been women. I knew that was so because we girls were often sent to the house of the nuns in the forest, a tumbled place with a tile roof over one wing only. No one had thatched the rest. It had been the villa of a Roman who cut down half the forest and sold the timber to make ships, but, since his day, the forest had grown back, young trees never coppiced that grew too close together, so that no stranger could have found his way to us. The nuns said that the house had been abandoned in fear of pirates. Their descendants were no danger now, for saintly men had carried the word of Christ to their land of Ireland, and there would be no more trouble from that place. But there were still barbarians, Angli and Saxenach, soulless men who hardened their hearts against the Word. Girls were in especial danger from them.

There was a school of sorts for girls who wished to be nuns, but the books were few and smelled badly of mould. As soon as I could, I returned to the city, for the nuns could not explain why women were the source of evil, but respectable girls needed to hide from men.

The last time this happened, I was fourteen years old. Word came that Warlord Arthur had defeated the Angli and their kin the Saxenach and put them to flight in a great victory, thanks to the power of Christ and his mother the Virgin. When my father, Diones, returned from the wars, he said that I could go with him in the spring to the court at Camelot, to see the Warlord declared Emperor of Britain.

It was a warm spring. We rode down overgrown roads almost as green as the fields. Lambs played and men worked, though even there in land far from the enemy, I saw more ruins than working farms, worn boundary markers round fields as fallow as wild deer, villages clustered in the lee of fortified hilltops.

The great citadel of Camelot was not the golden-towered palace storytellers frivol about, just a wood-turreted hill-castel. I did not enter it on that first visit. We were told that more men had come to see the Warlord made Emperor than had ever served under his lordship during the wars, and many had brought their ladies. They came from every part of Britain, and from across the sea, from Lesser Britain, from Ireland, and from the isle of Orkney. Most wore broaches in the shape of the British Circle Cross, the Cross built into the sacred Circle of the Earth, though for the first time in my life I met people who did not. I realized that Arthur had followers from beyond the Great Stone Wall, who followed the old, dark Gods.

As soon as we arrived, word came that the whole company was to ride east, ladies and all, to the fabled deserted city of Londinium, the place where the Roman Emperors had once held their courts, where no living man had ever set his foot.

We watched as Arthur rode out, followed by his Companions, the warriors of the Circle. The warlord wore no crown, but a cloak colored bluish red, a shade meant to be Imperial Purple. The companions wore cloaks that were red-blue on the left and white on the right, with leggings that were white on the left and red-blue on the right. Ladies followed, many wearing leggings and riding astride their ponies. Then a man appeared out of the crowd and rode beside Arthur. His garments too were half-and-half: half bluish-red, but where the others wore white, he wore black.

We rode east, at first through civilized lands. The villas were abandoned, but, in the walled towns, appearances were kept up. Soon we were passing

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fewer and fewer cultivated fields. There were sheep, cattle, and pigs, but these ran wild. There were no peasants to bring food-tribute, and hunting parties set out to feed the column. Everything was overgrown, and the only people were woodsmen. My father explained that these lands had once been fruitful, and our ancestors had fought as hard to hold them as the Angli to steal them; but now they had been fought over so often, that no one dared to sow a field and hope to live till harvest.

We came to a great river, and crossed it at a place we named the Ox Ford. All the men who had armor or weapons they were not wearing put them on. It was a ford that the Angli would once have defended to the death, but we found only a herd of big wild oxen, which briefly made a ring on the far side as if to deny us passage.

Soon we again rode between cultivated fields, but instead of the circular houses of civilized folk, I saw for the first time the squalid shapeless huts of the Angli. The savages fled from us, apart from a few old ones who fell painfully on their knees. I saw younger women and girls hurrying to the woods, which gave me an uneasy feeling, as though our menfolk could have the same base desires as did theirs.

I was well grown for my years, and was learning to deal with the attentions of the younger Companions of the Circle. They never pushed their luck; nor did they misbehave with savage women. Two Companions rode with us, pretty Peleas, who was my favorite, and Medraut, a youth from north of the Great Wall, who claimed, despite his thick accent, to be a relative of the Warlord. He wore a Circle Cross brooch, and explained that his fortress of Din Eidinn lay between the stone wall I knew of, and another made of earth, which was the real boundary of the Roman world. He said that though his people accepted the Roman way, and what he called the church of Rome, they had as many friends as enemies to the north where the old way prevailed. His brother had married the queen of Orkney, an island where people listened to the wisdom of the Druids, which had been ancient before Christ. It was a country where the king was always husband to the queen, and the throne passed to their daughter and her husband. I said: "So, in your brother's island, daughters, though daughters of Eve, inherit power?"

"Not exactly power, especially not in wartime. They pass it on. The Druids teach that the womb is a sacred vessel, and that women may have their faults," he gave me a little push, playful but hard, "but should not be blamed for the faults of men!"

The road went over a low hill, then down toward the river, and I saw before me the greatest city in the world, as I thought then. The high wall looked undamaged by time and war, though ivy climbed almost to the battlements. Beyond it loomed higher buildings than I had ever seen. I asked my father if it was true that no one at all lived there, save for a hermit who called himself the bishop of London.

He could see that I was alarmed, and tried to reassure me: "They say the Romans' own city was threescore times bigger, yet it fell and barbarians camp there now."

As the procession rode toward the wall, I looked nervously at the battlements. Most cities look deserted, but when you approach, sentries appear. Peleas said: "When the Angli take a city, they never live in it, for fear of the ghosts of the dead."

"That's absurd!" I said. "No one is ever buried inside a civilized town!"

"Then they fear the unburied dead."

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Arthur, at the head of the column, was near the gatehouse. The man whose clothes were half-black rode beside him. I whispered: "Who *is* that?"

Medraut replied: "Merlin. He is both priest and Druid."

Though the wall was undamaged, there were no gates in the gatehouse. I could see through it to a street lined with trees . . . no, the trees were growing out through the windows of the houses. Arthur did not slow or change his horse's pace, Merlin beside him, the rest following. We rode over the fallen, ram-battered gates into a city that looked like the garden of a madman. Everywhere, plants grew between up-tilted stones. There had been orchards here once, for apple and cherry trees grew everywhere, many of them in spring blossom. Normally I loved the beauty of flowering trees: it was in the empty city that I learned that beauty can be strange and savage. I saw plants growing from what I assumed were pots beside the road, only to realize that they were the skulls and rib-cages of the dead. Men rode with one hand on their sword-hilts and the other on the Circle-Cross. But there were no barbarians, and if there were ghosts, they did not show themselves by daylight.

We reached an area of even bigger ruins that cast shadows in the middle of the day. Some had inscribed plaques, and one caught my eye: "THE LIBRARY OF HADRIAN." I wondered who Hadrian had been, and whether there were still books there. I had read every book in the cupboard called a library in the White Town.

Then we came to the Forum, a big oblong open market. Here the paving stones were bigger, and fewer had been pushed aside by plants, but the shops and booths round the sides were all empty as raided tombs. At the far end of the Forum was a big stone speaking platform, and, standing on it, somehow driven by its point into the stone, was a sword. It was the only thing I saw in Londinium that wasn't old or ruined: the blade was bright and the hilt of polished gold. Around the cross of the hilt was a circular gold hand-guard: the Sword of the Circle-Cross. I realized later that Merlin must have arranged this, though how he did so, I never learned. Merlin rode forward, and, as the Forum filled with people, shouted that this was the sword of Macsen, the Great Greatest, the last Roman Emperor of Britain, and only the destined next Emperor could draw it from the stone.

It is not true, as storytellers frivol, that every petty King present tried to draw the sword. None would have dared. All were impressed, as Merlin had planned, by the great ceremony of the sword-drawing. Yet I wonder now if in some ways it was a mistake. None who went there could miss the message of the moss-green stones; that all things must pass, all greatness have its day, and its day after. And Arthur never returned to Londinium, though some of the great houses could still have been lived in, and it was a stronghold that divided the Angli from the Saxenach. All he did was build a stone wall round Camelot, which looked impressive, but was of dry stone, which would not last a hundred years maintained only by a bishop.

Servants were arriving with supplies for a feast, food, fuel, beasts for slaughter, cider, even wine. Girls were flirting with Companions, lords talking to greater lords. My father said that I had a chance to find an admirer, a possible husband, but my only interest was the library I had seen. I was full of desire, but for knowledge, not love. I yearned to find a book that would tell me what had happened here, what had brought this great stone city to moss and cherry-blossoms. Peleas came with me, but Medraut went off in search of important kinsmen.

When we found the library, the door was still in place, the only one not

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battered flat. Doubtless the Angli had no interest in stealing books. There was a window with one shutter hanging off at shoulder height. Peleas helped me get up to it . . . I nearly cut myself, for behind the shutter there was broken glass in the frame. I opened the other shutter and saw a complete glass window. People say the Romans could blow glass clear as a stream, but I never saw any. This glass had a blue-red eagle on a light red background, and cast a beam of red afternoon light into the darkness. I could just see into the building and lowered myself carefully to the floor. It creaked but held my weight. I said: "Are you coming in?"

"I will . . . is there any . . . have you got a lamp?"

"Er, no, but the window's almost clear."

"It's late afternoon. I'll find you a lamp."

I tried to tell him that there were no ghosts, but once he was gone, I was not so sure. The light from the window was red, as though there it was always evening. I heard a rustling and a scuttling sound, something alive in the dead city; then there was movement in the darkness, dark leaping on dark, and a little scream, the sound of a tiny creature dying. Something moved silently into the red light: it was black, and had glowing green eyes. I realized it was a black cat; it carried a mouse in its mouth, but it seemed more interested in me, as if it ought to know what I was, but had forgotten in the generations since one of its ancestors had seen a woman.

I was fascinated by the cat, and it by me, till something distracted it, and I saw a light reflected in its eyes, a moving light further into the building. Could it be Peleas with a lamp? There was no way he could be back and already inside, though I wished very profoundly that he was there and not afraid.

It was thus that Merlin the Enchanter found me, standing, as he put it, like a girl and her familiar in red amber, as though I was already an Enchantress. I did not know whether to be relieved or more alarmed, for though I was curious about the old gods, I had with me always the teaching that they were evil tempters of Eve, driven into the earth to become demons. Though he wore a Circle-Cross, it was an unusual one. In the middle was a silver moon surrounded by a ring, as if a shot-put had been built into a discus, and the four arms were comets.

"I hope I'm not trespassing here. There are so few books in the White Town, so much I don't know!" I added without thinking: "So few who can teach!"

He looked younger than my father, older than my admirers, and wiser than Dubric the teacher-priest. He gave me an odd look, not fatherly, not openly lustful like a youth nor secretly lustful like a priest. He was assessing if I was fit to be his student, if he would be my Master, and I, almost incidentally, would at some stage become his mistress. He said slyly: "Would you have me teach you to become a cat, which has taken in the spirit of a mouse, which has made use of these books!"

He adjusted his lamp, and the light flared so bright that I could see the roof of the building, great vaults and arches all of stone, with the pillars hugged by galleries full of books. I exclaimed: "How could men have built such a place, and left it to mice and Angli! You have to teach me! I am Vivienne, daughter of Diones!"

"I am called Merlin. Men say my mother was a nun and my father a demon, but I deny it. My father was one of the consuls of the Romans. As for why the other Romans fell, I can teach you no answers, only the way to ask better questions."

Peleas came to the window with a burning brand, having found no lamp.

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His face fell as hard as if he had been the ghost of that Hadrian who built the library, returning to haunt it and finding it full of mice. He could see that I would be Merlin's pupil and no man's wife. He raised no argument, and nor did anyone, not even my father.

We rescued from that place of mice thirty undamaged books, and about three score that could be read in parts. All the rest, the mice had already taken for their own. Lest this happen again, we took also the black cat.

I will write now of the questions Arthur asked me, standing in the place of Merlin, so that anyone who inherits my curious spirit will know what I know. I will not dwell on the things that Merlin taught me, for some are already written, and others are Druid lore, which may not be put into letters. We rode north to the secret city of the Shai Men, among the Selgovae, who deny the Cross. He showed me the stars and the hidden world of shadows, into which the Shai Man can cast his spirit like a net. I learned to swim naked in cold waters, and see the treasures offered to lake spirits. I found in the lake at Glastonbury the sword Caliburn, which was untarnished by its time underwater, and I gave it to Arthur. But I did not learn to run with the beasts in the woods as Merlin did, for I still preferred the company of men.

I waited with Peleas north of the Wall till it was nearly Easter, but Merlin did not return, nor did the skies clear or the hard fields melt. I showed Peleas the few books we had, for books are not forbidden lore. He asked me then, for the first time, if I had found the answer to the question I had first asked Merlin, why Rome fell and its people abandoned everything they had built.

I had to learn to answer questions as Merlin did, so I said: "Would you have me change myself into an eagle, so I could say why I abandoned my perch on the legion's standard, and flew away to my own nest? Or into a dragon, so I could tell you why I left the Roman banner, and favored that of Arthur, the Pen-Dragon?"

"Bishop Dubric preaches that Rome fell because she did not know Christ, and oppressed the Church. Is this true?" Peleas was often my escort when Merlin was not with me, and he realized that I could answer a question put in that way, so I said:

"If I was an eagle, I would tell you I stayed on my standard at the Crucifixion, and led the legions to the ends of the World. If I was a dragon, I would tell you how I followed the Cross when Rome became Christian, and left my standard when it was dropped in the dirt and abandoned in the face of the Saxenach."

He said: "My confessor told me that the Romans fell to the dirt, because they lay with men as if they were women. And women as if they were men. Is it so?"

He asked this, because he knew that Merlin only used me as the Romans used boys and young men. He, Peleas, was the only man to have used me as a woman. I had bound him in this promise: that if he ever made me with child, I would marry him; but he must never insist on taking me as a woman, and I would never refuse him if he asked to take me as if I was a youth. I used this, and the arts I know, to avoid falling with child, for an Enchantress could hardly be a housewife. So I said: "If I was a confessor, I would tell you that Merlin uses me as monks do their novices, and teacher priests their pupils and boys in their power. If I were a Druid, I would tell you that if you wish to quicken your seed in me, you must take me on the bare earth at the feast of Beltane, for that marriage symbolizes the marriage of Sky-God and Earth-Mother,

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which makes the Earth itself fertile." I said this because I knew that he would never marry me except in a church, or take part in any of the rites of the Druids. But that night I let him take me as a woman in Merlin's bed.

The great Enchanter did not return. His notes hinted that he had seen something in the stars which filled him with fear, but he had not written its meaning. So I rode south with Peleas. We stopped for Easter at the City on the Wall. There, we found that the Roman fountain, which never normally dries up, was blocked with ice. We spent Good Friday on vigil in the church, and most of Saturday. That night we slept with a sword between us. On Sunday, we took Mass, and that night Peleas took me as a boy, very roughly, but I did not complain. I knew that to free my spirit and cast it like a net into the world of shadows, I must learn to transcend pain.

We rode to the White Town, and then to Camelot. The land was fuller than when the Angli still raided. The cities had not been rebuilt, but villages had, and fields ploughed that once lay fallow. There was less ice, but the ground was still hard, and the farmers even more anxious, for they were further behind with their planting. I did not see the sun once, in all of that journey. I saw full churches, and signs that older places were being re-used, henges and circles.

I prepared carefully to see Arthur. I had met him many times, but this was the first time out of Merlin's shadow. I wore my hair down, to show it was naturally black, and a dress the blue of my own eyes, with a silver Circle-Cross, and none of the frivolous ornaments affected by those whose wisdom is in seeming, not in Seeing.

Arthur owned a table in the shape of the sacred circle. He had spread a map on it and weighted it flat with copper soldiers. He himself had lost weight since I had last seen him, being almost as lean as in his glory days, and only a little stiffer. He had his hair, which had kept some of its fair color. Medraut, who sat next to him, was almost bald and had grown a long black beard. Also present were a number of senior Companions and a few bishops. Arthur gave me the sort of look one gets used to, when one is a still-young woman, sent in place of a wise old man. He said: "So! What have you done with Merlin? Have you changed his spirit into the sap of an oak, and his body into the bark, and his feet into the roots, so he can only overshadow you if you choose to go to him?"

"No!" I exclaimed, quailing under the Emperor's gaze, forgetting to try and answer like Merlin. "He . . . is a little changed, in that he likes to run in the woods!"

He shrugged, as though feral advisors were a problem any monarch must live with, and indicated the map on the table. It was very old, and showed the world as it had been in the great days of Rome. At some point, lines had been drawn through nearly all the provinces of the West. In two places, heavy purple lines had been drawn: round the surviving Roman Empire of the East, and Arthur's much smaller dominions in Britain and Lesser Britain. Though there were lines through the western province of Africa, and through Italy itself, toy Roman soldiers had been placed there. I noticed that one stood in Rome itself. I commented: "This time last year, you asked Merlin if you should help the Easterners in their wars."

"He told me I should only do so, if I could turn myself into an eagle and my men into ravens, and fly across Gaul to Italy. That's what he said in the Court. In private, he said that if the Byzantines recapture all Italy from the Goths, and advance against the Franks in Gaul, I should help them."

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I thought quickly: "Didn't he say, only campaign if the harvest is good, so the men will eat, even if they can't turn themselves into ravens, and live on air and the dead?" I thought that would do it. The last year's harvest would never support a great expedition overseas, and this year's looked to be even worse.

Arthur was unconvinced: "As well as Merlin, you spoke. You said that the Emperor of the East, with his great libraries untroubled by barbarians or mice, could surely spare a few books to tell you how the Romans failed to hold the empire they had here before." He indicated a side table, on which were beautifully ornamented books, two scrolls and two codices. "I have a message from Belisarius, the Eastern general who, with quite a small part of the Eastern army, has destroyed the great kingdom of the Vandals, and is now doing the same to the Goths. And a letter from Emperor Justinian himself, written in his own hand, in purple ink!"

I looked at the map. As I had heard, the lost province of Gaul was bigger than all Britain, and the Eastern territories of Justinian vaster than both together. Arthur was explaining that Gaul had been under Rome far longer than Britain, and the territory adjoining the peninsula of Lesser Britain had been Roman within living memory. If the Franks could be taken in a pincer and smashed, the Gauls would follow whichever Emperor liberated them first. As I moved over to look at the books, my eye was caught by the letter in purple ink. Arthur was explaining that Justinian was by no means an enemy, but there would be a lack of balance if the momentum of his armies enabled him to capture the whole of Gaul.

The letter was in a purple deeper and richer than the blue-red Arthur made do with. It greeted him: "Dear Brother Emperor! Dear Colleague in Empire!" Arthur was explaining that a buffer zone that looked to Britain would be needed. It was a tactic that worked with the Saxenach. He did not say what was in his heart, the pride he felt that a true Emperor had greeted him as an equal. He was as half and half as Merlin: half Briton and half Roman, Christian on his lips, but, in his heart, half pagan. He was half-satisfied with his victories of twenty years earlier; but he knew that if he had one more great campaign in him, he had to wage it soon. Now he had a letter in purple ink. Justinian's father, the Emperor Justin, had never written to him; never acknowledged that there was any kind of Emperor left in the West.

The men around the table looked less convinced. Medraut was saying that whatever the harvest, Justinian could provision an army by sending his tax-gatherers to grind the people as if they were corn, but that could not be done in Britain. Arthur looked disappointed but merely said that he would give me a few days to look through the books, adding that he too would read them.

It was hard, for the light was poor. Merlin had told me to never read by candle. I sat outside seeking the best light from the grey sky. After dark, I did exercises for freeing the spirit. I told Peleas bluntly that if he took me by force as a woman, I would poison the air he breathed, so that he would lose the potency of a man and be fit only to be a catamite. As a boy, he could take me as roughly as he wished. This he did reluctantly, and I would then dismiss him, telling him that if I displeased him, he could beat me. I felt his love turning to hatred, but I forced myself to transcend the pain in my body and heart. When he had gone, I would dance and chant till I felt my spirit striving to cast loose.

During that time, I fasted, taking only water and the juice of certain fruits and herbs. This was as it should be, for though the Companions ate well, the common people were starving. Often they came to the fortress seeking alms:

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sometimes alms were given, but often the gates were closed on them.

Arthur held a council as soon as he had finished the books. More lords had arrived; also Dubric, who had once been my teacher. To have taught Merlin's pupil was rated a great distinction, and he was now a bishop. He was polite to me, but cold as teachers are to pupils who exceed their predictions. As the meeting began, he asked me loudly: "Clouds have covered the sky for almost a year. The thorn at Glastonbury, which normally blooms only on Christmas Day, still blooms almost at Pentecost. Are these natural clouds, such as we suffer from time to time through bad luck, or is there something unnatural about them?"

I replied: "They are very high, like cirrus clouds, but continuous, like a single vast cloud that never breaks, thin enough that one can sometimes see where the sun is, but it hardly ever shines through. Beneath it, one can see ordinary clouds that come and go. I have never seen such continuous high clouds, nor read of them."

"So, is this Plague of Darkness bad luck, as sometimes happens to those who cast dice, or is it a sign from the Lord, a warning or a punishment for our sins?"

I hesitated, feeling ill-qualified to know the Lord's Will, and even more reluctant to pronounce on it, for much of my knowledge was Druid-lore, and the bishops preached ceaselessly against the old ways. Arthur himself would not forbid traditional teaching, but many of the petty kings supported the bishops. Medraut, however, interrupted angrily: "Is the sin being punished the sin of we kings and bishops, or that of the farmers and their poor children whose crops are failing and whose cattle are loosing their ticks because they are too thin to be sucked on?"

Dubric puffed himself up and said in his loudest preacher's voice: "It is now five hundred years since the Passion of Our Lord. It is written that in the Last Days, the Horsemen of the Apocalypse will ride the land. There is Famine in the land, and I have word of Pestilence. Now I hear a further horseman in the shape of War. . . ."

Medraut snapped: "So, did Jesus say 'Suffer the little children to come unto me,' or just 'Suffer the little children!' "

Nothing I have heard from Merlin or the Druids, or read in Roman books, makes me doubt the virtue of the Apostles or the old martyrs; but the bishops of these later days are at their best when instructing their own followers, and do not cope so well when confronted with angry armed men who disagree with them. So great was Medraut's rage that Dubric fell silent. Meanwhile, Arthur was saying: "Companions, the sky is dark but we have overcome worse misfortunes. When we were children, it seemed the whole future of this land was dark. But now there is a break in a century of cloud, and Roman government can be restored to the whole circle of the world. So let us put any differences behind us and decide how we can best contribute to this great project." I could see that the others wanted to believe him, but could not shelve their doubts. Arthur turned to me. "Wise woman, I too have read the books you requested. I read that the Roman Empire had often been invaded by barbarians in past centuries, but always the Romans returned. So, the answer to your question is this: the Romans gave themselves a surfeit of peace. Their soldiers lost their appetite and skill for war. Now the tide has turned and the enemy has become lazy."

I had not eaten since I arrived at Camelot, deliberately, but now I felt faint with hunger, and I feared my spirit might go out of my body prematurely. I looked again at the map with its vast Byzantine Empire and several nations

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of barbarians, and felt very inexperienced. On an impulse, I said: "The books say very little of the mundane business of how the armies were supplied."

Several people nodded, and Medraut almost shouted: "For God's sake, if you have to make a war, let's raid the Saxenach and drive away their cattle while the beasts have the strength to walk!"

Arthur, with Merlin's aid, had always been right about strategy. He had united a dozen petty kings, defeated the Angli and Saxenach, turned the Picts and even the Irish into allies, and kept the Franks out of Lesser Britain. However, the letter in purple ink had tempted him to the greatest gamble of his life. I cared nothing for the Byzantines, for their Emperors tolerated the old ways far less than Arthur. I suspected his plan, if it worked, was the best for keeping them at a distance, but his success depended on the duration of the unknowable darkness. Arthur turned to me again: "I think the cloud, whatever it is, is getting thinner. This morning, for a brief moment, I saw the sunrise. Did Merlin, or anyone, give you a clue as to when it will rise for good?"

I was faint and had no answer. I said: "Merlin disappeared into the woods before the cloud came. He saw something in the stars that terrified him."

They all shuddered. Only Medraut spoke: "Could he have seen a comet, such as Uther Pendragon saw, the year he became High King?"

My spirit, encumbered by my famished body, could not reason. I said: "I will go to Glastonbury, and pray and meditate on the Holy Thorn, and there cast my spirit into the Land of Shadows, to seek Merlin's spirit and his advice."

I set out at once, with Peleas as escort. On the way to Glastonbury, we forded a small river called the Camlan, which runs between it and Camelot. Beyond, I found more people than I had seen since the day when Arthur drew the sword. They had come for fear of famine, and been confined beyond the river for fear of pestilence. I paused to advise them on where to put their latrines, and which herbs would stave off illness, but my heart bled for them, for I knew that the great storehouses the Romans had kept against times of need were now granaries of mice, and Arthur's reserves would never feed so many.

At Glastonbury, I went directly to the Thorn. It was covered with white flowers. I had met Shai Men who would have themselves tied to a tree as though crucified, but that seemed blasphemous, so I merely removed my clothes and found a branch where my body could sit securely while my spirit roamed. Not that I spared my body pain, for it could not be a house with any attraction for my spirit. I chose the places with the sharpest thorns for the parts of my body that Peleas had beaten for being his catamite and not his wife. As for the man himself, his rage had gone, and he seemed terrified for me, saying I was a madwoman and addicted to pain. I assured him he need fear no more for me than for anyone else in that dark land, and took my place. I meditated, and sang my personal Song of Changes:

"I am the essence of change, part-and-part;
I am the woman who walks among men
I am the serpent who tempts and the snake who soars.
I am the winged serpent.
I read the gospels, and the philosophies of those
Who knew not Christ;
I sing the songs of the bards
And the psalms of David;
I am the Wise One who is always a pupil

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I am the advisor who is always in shadow
I am the catamite who will bear your child;
I am the serpent that soars like a raven."

As I said those words, I fancied it was sunset, and that I could see the sun at last, but then I realized I was delirious, and what I could see was a circle of light like a tunnel, and not at all like the sun. My spirit was free and rushing into it, and soon I no longer felt the pain of my body or the weakness of hunger.

I entered the land of shadows. These shadows are not so much gloomy as faint: indeed, it is a bright world, but nothing looks as solid as it does in the world of bodies. The things that look most tangible there are those that have existed longest, the hills and the trees. The works of men, even the great stone walls of the Romans, are fainter. Shadow-Britain is a land of forests, and they are dark where a solid forest would be dark. One's spirit can travel swiftly there, attuned to the presence of other spirit adventurers. I was full of energy, for the weakness and pain of my body had invigorated my spirit. I dashed into the woods, heading North, then soared above them, going faster than any human ever traveled, probably faster than the fastest bird can fly. Before long, I passed over areas where the forest was broken by bare uplands, then over the much fainter outline of the great stone wall of the Romans. Soon, I saw the woody outline of the Coit Caledon, the great forest of the North, where Merlin's body roamed on Earth.

I slowed and glided gently between the trees. The light was weird in the shadow-forest, brighter than in an earthly wood but less saturated with color. I saw the shadows of shadows of small forest creatures that kept out of sight. If there were spirits of Shai Men there, they also avoided me: for Shai Men were few in Britain now, and many distrusted one who could sit round a table with the bishops.

I was impatient, but not dispirited. If not from Merlin, I must be able to find an answer somewhere in the world of shadows. I was considering leaving the forest, when I rounded a corner in the path and was confronted by the very faint figure of one I assumed in life would be very solid. This was Clog Ears the Bard, the bogus shaman of the Angli. I could tell he did not free his soul by weakening his body, as I did. I assumed he cast his spirit by taking his mead fortified with the juice of wild fungi: he even bore a shadow of his drinking horn. This shady being grinned at me lasciviously and raised his horn: "Was Hail, Vivienne, Wyrd Woman to Cyng Arthur! Tell me, does Cyng Arthur plan to make war on the Anglish folk?"

I wondered if my shadow was as naked as my body in the tree, but this was not so; I wore my blue dress and silver Circle-Cross and they were brighter than anything else in that land. I scolded: "Would you have me become a bottle, to pour into your ears? Would you have me become a sword, to cut out your tongue?"

He flickered and said: "No, I wish only to trade! I ken that you seek Merlin, and I will tell you of him, if you say if we are at war!"

I said stiffly. "Emperor Arthur is not planning a war against *you!* But then, who are you to speak the name, Merlin?"

"I know Merlin is wiser than you, and not so bold. He loves the old ways. That is why he hides in the deepest part of the forest, the oldest, the true Ygdrassil."

I knew where he meant. I whirled away and flew through the forest, off the path and into the deepest thicket, where stood a great oak that Merlin

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said was the oldest tree in the world. As soon as I reached it, I knew there was a spirit hiding in it. I approached so fast that I startled Merlin, and he partially emerged. I snapped: "What have you seen in the sky, that has turned a magician into a rabbit?"

"I saw a comet. Like the one I saw the day my father, the Consul Ambrosius, died, and Uther became Pendragon. But this one was worse: it had two tails!"

I shuddered. "Just what warning are we given by a comet with two tails? Has one of them enveloped the Earth, and caused the darkness? When will it end?"

"Would you have me become the sun, and rise in the East? Once my spirit flew swifter than a Merlin-hawk, but now it moves no faster than the branches of the tree move in the wind. I cannot fly to the East and interrogate the sun. You can!"

I soared above the treetops, and turned toward the dark shadow of the East. I flew over the sea, where I saw no shadow-ships, only whales. I flew over a land of black forests, until I came to a great river, and beyond that I saw the faint outlines of the cities of the Byzantines. Though I was tiring, I flew on, until I saw the outlines of a high wall, and, beyond it, a city so vast that it made Londinium look like the seed of a great oak. Yet this Byzantium was faint in the shadow-world, for it was a new city.

I was weakening, and was anxious to find a Shai Man to talk to. I could not see any, until I noticed a single figure of a barefoot man in a coarse robe and a rough cross, floating slowly over the rooftops towards the dome of a church. I hurried toward him, but as soon as he set eyes on me, he gave a loud cry of "Lead us not into Temptation, and deliver *me* from Evil!" and fled. I followed, out of the city and across a narrow sea, till I saw he was heading for what had to be his body. It was kneeling, bare-kneed, on top of a high rock, like a huge stone barn. I overtook him then, and twirled round, so I was between his body and his spirit. He gave an anguished cry, and said: "Dear Lord, forgive my sins! Deliver me from the lust in my body, from the temptations of demons in the air, from the pride in my spirit! I vow never to leave this pillar in body or spirit, till the tyrant Justinian is deposed!"

I said authoritatively: "I come from the land of Britain, where we worship the Cross but also the Circle of the Earth. I am not a demon, and I certainly haven't come to tempt you. If you could compare yourself to my beloved Peleas, you would know that I could no more seduce you than a tigress mate with a hedgehog! Emperor Justinian is a friend of my Emperor. Why do you pray for his overthrow?"

"Despite the Sign of Darkness that he is a sinner, Justinian has made a great war to capture the pagan city of Rome, where the Apostles were thrown to the wild beasts. To pay for this war, his tax-gatherers swarm like locusts over the people, as though they were themselves a plague sent by God, not one sent by Mammon. For surely the mite of the widow and the farmer whose crops are blighted by the Darkness is not Caesar's to be rendered unto Caesar!"

"Tell me what you know of the plague of darkness, and I will not tempt you."

He looked even more anguished, and said: "Lord forgive me, I sought to learn more from the Realm of Spirits than man was meant to know. I too have searched for knowledge of the Darkness. I met Holy men, and some not so holy, who said there was one who knew, but he lived far to the East, in a land that is Forbidden, and surrounded by a great wall. I met this man, or

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spirit, but only very briefly. For I offered to teach him the Word of the Lord, if he would give the information I required. But he called me a barbarian, and said the Lord was quite unknown in that country, and ought to remain so. My spirit faltered when I heard that, for I had never been in a totally godless place, and feared being lost there. And without willing it, I found my spirit racing back to my body."

I went East for a long time. Sometimes I sensed the spirits of Shai Men to the North, but I did not deviate. Once, to the South, I saw a huge range of mountains, higher than I had thought the sky was, and I swerved slightly to avoid them. Then, in the distance, I saw the outline of a battlemented wall. It was more solid than the wall of Byzantium, or even the great wall in Britain, so it must be much older. I rose high to cross it, and I realized that it was a far longer wall than those two put together: probably three times as long, or three times three times. I felt very afraid, for I knew nothing of this vast and distant empire that could build such an edifice. I considered turning back, for my spirit had traveled far and felt as weak as my body. I reasoned that I was in no state to cope with the dangers of an unknown land. But that I ever *would* be, I doubted. I could return, and have no answers for Arthur. My whole life would resolve to questions I could not answer. I might as well marry Peleas and be his brood woman. If there were answers anywhere in the world of shadows, or our own world, they lay behind this wall. I had to go on.

I flew over the wall, and began to see beautiful cities, wondrous things that are hard to describe. I was starting to feel faint and feverish even without a body, and had to concentrate solely on finding the Wise One. I sensed no Shai Men, till suddenly I was aware I was being drawn toward one.

I can say little of the Wise One I met beyond the wall, except for his words. I concentrated hard on noting them, for though there is but one language in the world of shadows, he spoke in a high, barking voice that was strange to my ears. He began: "So, another long-nosed barbarian comes to disturb my studies!"

I was about to respond indignantly that the delicacy of my nose has often been praised, when I remembered that I was in the presence of a great enchanter in a land where no priest or druid had ever set foot. I said: "Wise One, I have heard your reputation, and come a great distance. . . ."

He interrupted to ask if the sky was as obscured by clouds in my land as it was in his, then asked about the positions of various stars at certain times on nights when they could be observed. Luckily, Merlin had taught me astronomy. He said: "You have indeed traveled further than any other. You may seek information."

I asked if he was aware of the two-tailed comet Merlin had seen. He replied at once: "Yes. Your master is a good observer, for the comet was faint and distant when the clouds covered it. I had expected it to get brighter. The two-tailed comet is not unknown. It appears every three hundred and eighty-eight years. It has been recorded five times. The third recording was during the building of the Wall."

"Do you think that the unnatural clouds are formed from the tails of the comet?"

"No. The comet was eclipsed by the Moon just before the clouds obscured it. It was still too distant. If you want to know what I know, be silent and listen."

"About a year ago, in the spring, I, and the other scholars of the Middle

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Kingdom, and indeed the whole population, were disturbed by an unprecedented phenomenon: a mighty roaring sound, louder than anything ever heard, which was soon established to not originate anywhere in the Middle Kingdom, but from outside it, from somewhere to the South.

"As the noise began to die down, more and more black clouds were noted, high in the sky, and they steadily became more of a problem. It was not certain that the two phenomena were connected, but it seemed likely. There was talk of mounting an expedition by land and sea to investigate, but no one was anxious to venture so far from the Middle Kingdom. I, however, was not thus tied to the ground.

"I knew that there were persons who could enter the shadow world living in the direction of the terrible sound, so I cast my spirit and visited them. It was a hard journey. Even in the shadow world, the disruption caused by the great explosion was very great. I only found one who had managed to leave his body in that time of terror . . . the others were trying to save theirs.

"He said he lived on an island, near which were smaller islands, submerged mountains, of the kind that periodically eject smoke and flame. In itself, the phenomenon is well known. This eruption, however, seems to have been greater than any previously described. My informant had been observing the smoking island from a vantage point where it was only just visible on the far horizon. Quite suddenly the whole mountain-island exploded into a great pillar of flame. He said it was as if the sun had been imprisoned in the Earth, and fought its way out throwing off its blanket of rock. Smoke, rock, ash, these things flew straight up into the sky in a dark column above the fire. Then, when the top of the pillar of dark substance was so high he was losing sight of it, it stopped rising and formed a cap, like the top of a great demonic mushroom, which spread across the sky."

I do not know how my spirit returned from the forbidden kingdom beyond the great wall. I came to stiff and frozen in the Glastonbury Thorn tree. I was still naked, but Peleas had covered me with blankets. I was numb and could not feel the thorns: I called on him to get me out before I started to feel them. He had been watching over me for two days and three nights: it was now dawn on the third day. For a moment, I thought I saw the sun, dim and bloodred, peering over the horizon, as Arthur had three days earlier, but then it vanished behind the smoky clouds. I dressed as soon as feeling started to return. Peleas had saved for my break-fast some honied dried apples, and prepared for me a warm infusion of soothing herbs. I ate and drank as quickly as my body would allow me, pausing only to tell Peleas that from then on I would be his woman only. Then we rode off toward Camelot, and the river Camlan that ran between us and the fortress.

At the river, I saw all was not well. Horsemen were among the alms-seekers, many of whom had rough weapons. A banner waved, a red-blue dragon. Medraut was beside it. Beyond the ford, a column of riders approached from Camelot. Arthur was in the lead. His banner was new; a great eagle in the Imperial Purple of the East. His followers wore the Circle-Cross, and some plain crosses, but I saw few of either among Medraut's followers. These were moving toward the ford, evidently meaning to make a stand there. They must have forgotten that most of Arthur's victories had been at fords. I kicked my horse forward and the ranks parted. In my weak condition, I did not care how I looked. People stared at me as if I was the Ban-Sidhe, and I came to the ford before anything mad could happen.

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Arthur brought his men to a halt a little further off than suited me, for one communicates over that distance by shouts and yells, but not by calm negotiation. Medraut rode up beside me. He yelled to Arthur: "So, you can ride this far to seek a quarrel, but yesterday it was too far to bring supplies to the starving!"

Bishop Dubric was beside Arthur. He shouted: "How can we feed the body, when the spirit hungers? Abandon the poisonous blasphemies of the Druids, or the Lord will send more plagues!"

Medraut started to reply, when Arthur said commandingly: "There need be no quarrel. Simply abandon all rebel talk. Let me unite Britain again!"

Medraut's men seemed to listen, but some of Arthur's were shouting: "Unity under the Cross only!" It was time to intervene. Weak though I was, I shouted:

"Listen! In the old times, people worshipped Sky-Father and Earth Mother as partners, and called their relationship a marriage! Now we call the Gods of the Earth demons, and the Earth has retaliated. In the far East, a mountain has turned into flame and sent clouds of ash into the sky! Let us have no wars over religion!"

I did not know if I had said enough, but shouting loudly so all could hear exhausted me. I felt the world spinning, heard a murmur of agreement from Medraut's men, but Dubric was loudly denouncing me as a serpent. My last strength went and I fell from the saddle and lay on my belly by the riverbank, as though a serpent was what I was. I had no strength to rise and fainted into darkness.

When I came to, it was evening. The sun was out and casting red light over the Camlan and its banks. All around me were dead or injured men. No one had harmed me, perhaps because Peleas had dragged me away from the heat of the battle. He told me that Arthur and Medraut were both among the fallen, though Dubric had escaped. For once, he spoke of the great preacher with bitterness.

The sun returned slowly. Harvest was poor that year, but the famine less severe than I had feared. No one was declared Emperor in Arthur's place to receive letters from Justinian, whose army never advanced beyond Italy. Instead, petty kings who called themselves Pendragons maneuvered for position.

I rode away with Peleas. We were married, but not by Bishop Dubric. Nor did I insist that Peleas take me on the bare Earth at Beltane. I had learned that Earth and Sky were alike treacherous, and so were the men who claimed to speak for them.

Author's note:

I have long been intrigued by the coincidence of two key dates in Dark age, post-Roman history. One is the well-attested attempt by the Byzantine (Eastern Roman) Empire to recover the West, the other is Year 537: The strife of Camlan, in which Arthur and Medraut fell, and there was Death in Britain and Ireland. (Annales Cambriae), *the best date we have for the death of Arthur. (Referred to as 'Emperor' in several Welsh tales and poems. This date, like everything else about Arthur, is not definite.)*

Recent research into climate change using dateable tree-rings indicates a period of intense bad weather on a global scale in exactly this period. Evidence for it has been found in Byzantine records. Because it occurred in both hemispheres, the most likely explanation is thought to be the eruption of a volcano near the Equator, possibly Krakatoa. The great roaring sound audible in China that is referred to in the story is historical. ❍

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SONG AND DANCE

1. *Song*

A trillion worlds,
unheard even by their own
moons, sing to Heaven.

2. *Dance*

We are wallflowers
at the cosmic ball, with no
names on our dance card.
Yet, while we watch the
evening's glittering stars,
envious of their
grace, baffled by their
repartee, offended by
their aloof manner,
we still survey the
crowd, calculate our prospects,
and assure ourselves
that somebody will
eventually notice
us, come over, and
say Hello. "Till then,
let's just look pleasant and act
like we're having fun."

—Steven Utley

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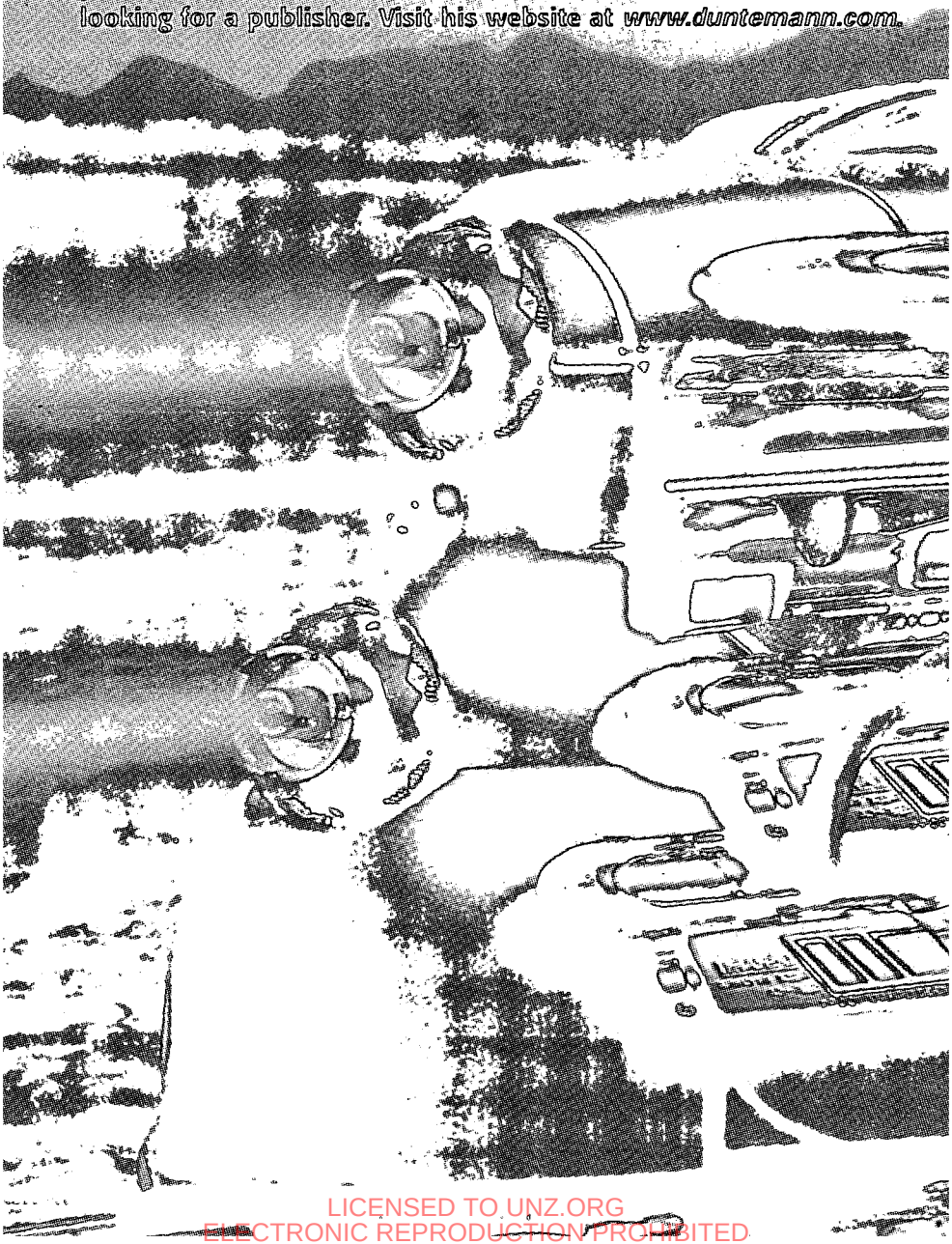
With this story Jeff Duntemann returns to the pages of *Asimov's* after a twenty-year absence. Mr. Duntemann and his wife Carol are well-known in the computer publishing industry, and as founders of Coriolis Group Books in Scottsdale, Arizona. The author has completed a novel set in the same universe as "Drumlin Boiler" and is looking for a publisher. Visit his website at *www.duntemann.com*.



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DRUMLIN BOILER

Jeff Duntemann

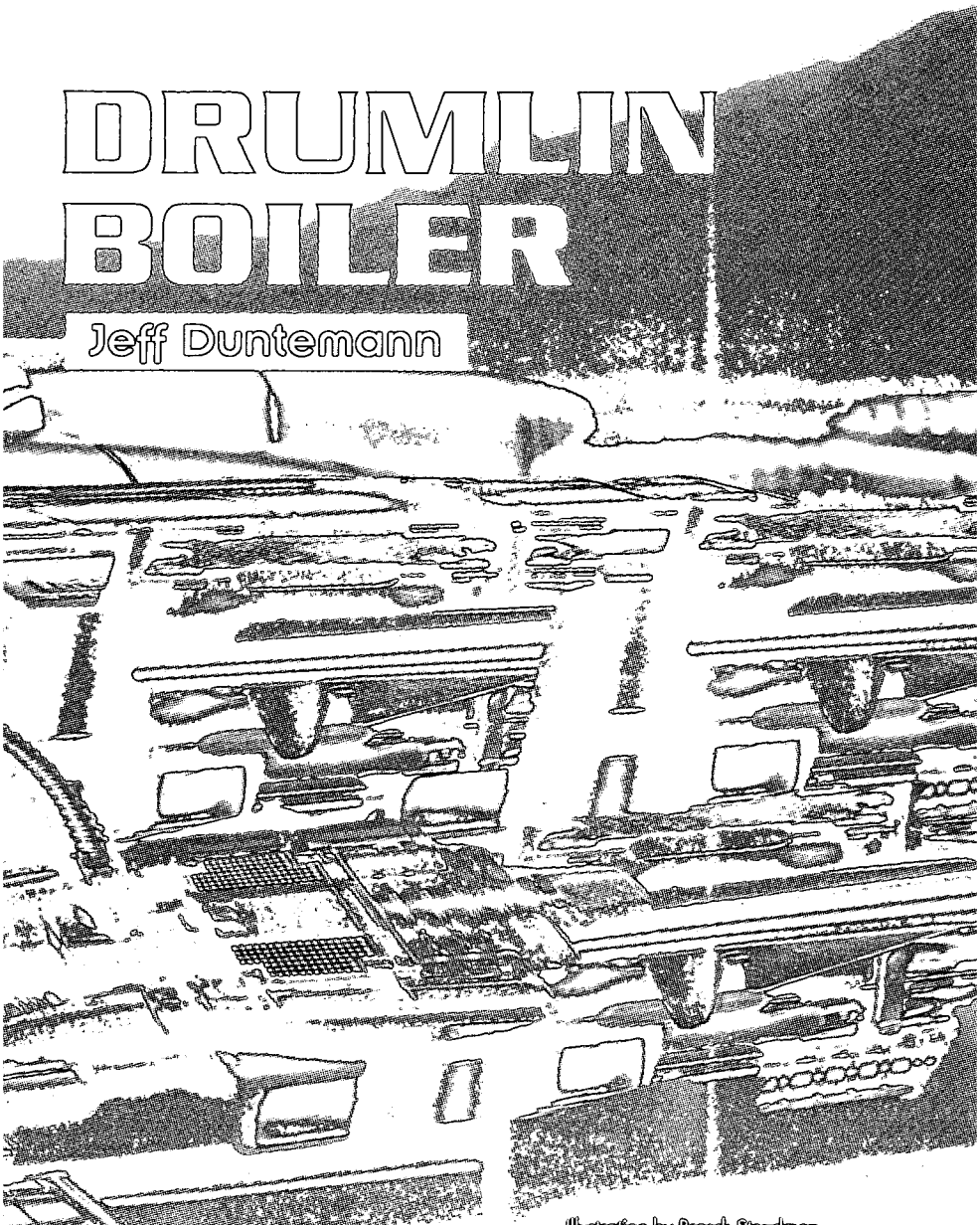

Illustration by Brock Steadman

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Mike malleted a pin into the coupling, and we watched *Sam'l Borden* chug and puff a cart of rocks down the length of the track, maybe as fast as a man could walk with a gimp leg. Next run, Mike coupled up the second cart of rocks, and *Sam'l* just sat there, blowing steam out of his leaks and damn near screaming. Mike threw his hat in the dirt and stomped on it. Call *Sam'l* a size six loco with a size two boiler, but it was all the iron we had, and it wasn't enough.

We've been here on this planet 252 years now since the *Origen* did a black fold and died, and nobody's yet drummed a boiler up out of a thingmaker. And a boiler is what we needed, Mike and I and *Sam'l Borden*, to get the president to take us serious and let us enter the big loco race. Just about all the rest we found in *Banger's Big Book of Drumlins*, or bought as thingie doorstops from townfolk hereabouts, and as far away as New Scottsdale. Mike was annoyed but he wasn't worried, even as we saddled up and set out for the capital to put our papers in before October, like the rules said. Trust in God and the thingmakers, that was Mike's way. If one didn't produce, the other would. We had put word out as soon as last February, not that we thought it would help: *Mike Grabacki needs a boiler and will pay big. Get drumming.*

We saw them drumming all the way to Colonna, where the road plays connect-the-dots with the thingmakers as roads do everywhere, towns every so often and the thingmaker in the square, if you can call some dirt and three stone houses a square. They waved at us and sometimes we ate with them, the hopeful drummers with little good-luck thingies and goose bones hanging off them every which way, dancing in place to their own cockeyed rhythms as they hammered on the two pillars, whistling sometimes as though whistling would improve their chances for making the Big Drum. At every thingmaker along the road, Mike pulled back on the reins and handed the drummers the drawing he did of the drumlin we want. Meter wide at least, two-three meters long, and hollow. Two hundred hands unknown, and with the rhythm, ten thousand.

Ten thousand hands! That isn't quite what the Ball of Gold most folks dream of would fetch (nor a were-wheel, which would fetch even more), but it's a Big Drum anyway. I'd never see that much money in my life, nor would the folks we danced to by torchlight after dinner, drumming on the gold and silver pillars, praying and whistling for something nobody's ever seen but everybody wants, whatever it might be.

Most everybody keeps a good-luck thingie (a thingie being a drumlin for which there's no practical use) hung around their neck or in their pocket, mostly drummed up by themselves at random. A really random thingie is the only one in the world, and only you have it or ever will, especially if you never write down the rhythm.

Mike's is an odd one; it's a drumlin cross he made for Mother Polly Jerusis, Huffer's town priest who's rectored St. James for a lot of years, by carving up a flattish thingie with drumlin drills and drumlin files, all edged with diamond, and gluing precious stones to it with drumlin glue. But Polly gave it back to him, saying the metal is haunted and ungodly, and she cited all the campfire legends of drumlins that squirm and dance and sing back when you sing to them, which ain't natural.

Mike said he'd never seen anything like that himself, and drumlins were his stock in trade and main passion (though I think Polly is his real passion, and keep my mouth shut) but she said Jesus didn't die on no drumlin met-

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al cross and that was that. Me, I say Jesus used what he had on hand to do the job he had to do, and that's Mike too—only drumlins are what he uses, for almost everything.

Third night out, we were at the fire where the road cuts Radley's Ridge and the thingmaker sets right on the ridge saddle with the rocks, up above the valley where the Big Lumpy River winds down to Colonna. There were two families there with their carts and mules, coming back from harvest market, and we shared rumors and stories, played some flipcard-threes in the dirt, and drank new wine from diamond bottles.

Mike's what you call a rich man by accident—he wants to win the race not for the purse but to prove his mostly drumlins loco can outrun a poured iron one—and it bothers him. So he's good to poor people and gives them money without bruising their pride by buying useless thingies from them that anybody could scuff out of the dirt next to a thingmaker. He was giving whole hands out for these geegaws that looked like squashed metal fish, when a girl about ten named Rosa Louise asked Mike if he would buy a thingie with a song attached.

Mike grinned his killer grin and said, sure—a hand for the song and a hand for the thingie too. We all got in a half-circle around the thingmaker to listen.

She started by touching the sides of both pillars like some folk do: The Sun Pillar on the right, spiky jagged across like you'd draw the sun, colored milky gold like a late winter morning; and the Moon Pillar on the left, round and smooth and dusty silver like the big moon through thin clouds. Once her little hand struck the first low beat from the Sun Pillar, there wasn't any sound left on that ridge but from her and the pillars, one beat per syllable, no fudging, in a little-girl voice that was strong if not too steady:

I love my dog Hank!

The pillars spoke beneath her words, as if they were really drums and not who-knew-what made by God-knows-who:

Boom-Ping-Boom-Boom-Boom!

Sun-Moon-Sun-Sun-Sun. Not a common intro. Mike's eyebrows rose as she went on, listening hard to see if he could remember it. Most folk can't invent anything but the plainest rhythms. Words help add the variety you want, without going quite random, and give you a memory to hang the rhythm on:

He was big and warm and he slept in the barn
With the cows and the owls and the mice and the hay
And he worked all day but he still would play
When sun done set and we all had et.

I've seen some kids say poetry and beat out time on the pillars, just for fun, alternating pillars with every beat, Sun-Moon-Sun-Moon for all 256 counts, and drum up an axe every time (or Moon-Sun-Moon-Sun, and get a bucksaw) but not Rosa. She made Sun the accents, and Moon the soft

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words, and never got it wrong even once, and hit not one more beat than the 256 she needed:

Daddy brought him home in a box from town
And his back was white and his butt was brown
And his tail was black. He was made by God
From the parts that were left at the end of the day
From the dogs that He made that were all one way.
God had a spare tail and some good sharp teeth
And a big brown butt at the bottom of a box.
So He made my Hank and he sent him down from heaven
To be mine for awhile, though it wasn't too long.
And I made him this song to remember him by,
When I want to go to sleep and I don't want to cry.

It was a lot of remembering for a girl that small, and the tune wasn't anything much, but she got all the beats just *so*, making it more a chant than a song. Her nose stayed screwed up in concentration, but she had that good-girl grin on her that'll make a daddy do anything at all.

I love my dog Hank!
Even though he's dead 'cause his blood ran red
When the cat bit down on the road to town.
Daddy came a runnin' but the smilodon was comin'
And he wanted me for dinner so I woulda been a goner
'Cept that Hank sank his teeth in the cat's flank deep
And the cat turned around and he bit Hank's throat.
Daddy shot the cat's head but by then Hank was dead.

Mike's eyes were still closed, trying to get the sense in the pattern. Simple rhythms drum up simple things, complicated rhythms more complicated things. Stupid random hammering, or even a good rhythm with one beat out of place, gets thingies. If we could figure how to make *real* complicated rhythms, we'd get all the stuff they have on Earth, and wouldn't ever have to go back.

You gotta be brave if you're made from a batch
Of loose dogs parts that don't all match.
God took him back to heaven where he barks and runs
'Cause dogs that don't match are the very best ones!

When the last two booms from the Sun Pillar echoed away, little Rosa leaned forward, looking wide-eyed-and-all-wonder down at the silver dust in the big black stone bowl behind the pillars. Bigger boy, her brother I think, stuck a torch in the fire and leaned over the bowl, and we watched the dust ripple and boil and make rainbows with the light.

Big drumlins just surface and bob there, held up by the dust that seems alive right then. Small drumlins are different: The dust parted like the Red Sea over something slender and long, and a dust wave picked it up and carried it toward the pillars, and set it down gently on the little shelf at the edge closest to Rosa. Then the dust drew back, and settled flat again with little rings that rippled and died away clean.

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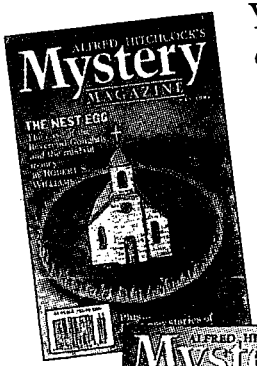

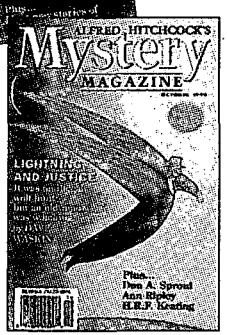

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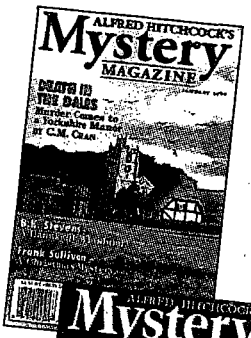

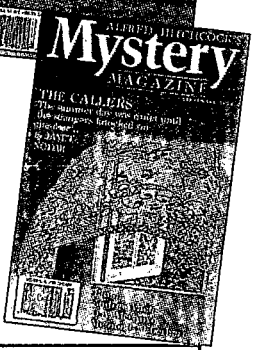

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Rosa Louise reached between the pillars, and grabbed the shiny metal drumlin from the shelf. She held it up high in torchlight. We cheered, and the grown-ups were all dabbing their eyes on their sleeves from the song.

She ran over to Mike and pressed the drumlin into his hand. Sometimes you can't say if it's a thingie or not, and this was one time. Her drumlin looked like a silver sausage with a big hole on one round end and lots of smaller holes all over it. Mike hunkered down and held it every which way in front of his nose, checking it over. He nodded, and grinned at her, and after digging deep in his big front pocket, pulled out the little leather sack people've been seeing a lot of recently, and dropped the two little golden hands from his fingers into hers.

She leaned forward and kissed his forehead, giggling with delight. "It's a wish-whistle," she said, suddenly grave again. "Least that's what I call it. You blow on it real hard, and if God wants you to have your wish, it'll fersure come to you."

Mike raised the big-hole end to his mouth to blow, but she put her finger on the other end and pushed it down again, her little mouth all pouty. "Now, don't go blowing it without no wish, or a bad one! God gets tired of sayin' No all the time."

Mike stood, and I saw Rosa's daddy nod to him in the proud gratitude of poor people. Mike stuck that drumlin in his chest pocket, then stood off aways and stared at the stars for a real long time. I didn't hear any whistle—but I could almost hear his wish.

When we got to Colonna we left the horses with Mike's cousin Ignaz and shoved our way downtown to the market square, where we found what was like to be a riot. Eight hundred farmers were camped out with their geese and potatoes, waiting for the government's damfool poured-iron steam loco to pull out, and it was already two days late.

Mike and me elbowed up to the hunchbacked thing they named *Mazeppa* and saw Quill Nunday standing next to it with iron chips in his beard, screwing clamps on a crack-busted main drive rod. Farmers and their boys were eating peaches gone a little too ripe and throwing the pits at him, and there was fire in his eyes. Quill was the seventh son of a rich man, which is supposed to be good luck, but his brothers got all the money when Mel Nunday died and they 'prenticed young Quill to a smith to get him out from underfoot. He was a fair mechanic but resented having to make a dirty living, and with a long-handled wrench in one hand everybody was giving him some room.

Didn't look to us like he'd made any progress that day or maybe the day before, so Mike snuck up behind him and clapped him on one arm to say, "Hey, Quill, looks like you need some help!"

Quill swung the wrench, but anybody with one eye could've seen that coming. Mike ducked back, and the wrench hit *Mazeppa*'s left cylinder with a clang. Quill wanted to swing again, but Mike grabbed the wrench and the two of them danced around, hands on the wrench like a couple of farm wives fighting over a broom, Mike laughing like a drunk and Quill's forehead bright red with his veins sticking all out.

Finally Quill yanked back the wrench and dropped it in the dirt. The fire was gone, and Quill just looked tired now, like a not-quite-broken man looks when he knows he'll be broken before his time. "Some help you'll be, Mike

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Grab-Thingie. Gimme an iron rod and we'd pull before suppertime—but everybody knows you're too lazy to lift iron."

Maybe the insult stung, but Mike had a position and he stuck to it like burrs in doghair, and I hadn't seen him riled since spring before last, or longer. He always won by being true to what he was. Never yet seen him change direction because some yokel told him to. "You can't fix a main push rod with clamps, Quill—what'd old Howie teach you? Let me drum up a thingie like I use on *Sam'l Borden* and we'll pull before lunch!"

The farmers were gathering around now, and spitting their pits on the ground, cheering Mike whatever he said. That got Quill riled again, and he leaned back against *Mazeppa*'s cracked rod and pointed his greasy finger at Mike. "Ain't gonna be no magical alien crap in *Mazeppa*! We gotta build things the Earth way or we'll never get back to Earth!"

I could tell Mike knew how to handle Quill now, from that grin of his, broad as a sea horizon. "Well, I'd venture Earth'll still be there—and these good gentlemen here'll be just as happy getting their peaches to the capital before they rot. I might lift iron if the government'd sell me some—but I'd guess before I'm lazy that you're just plain *scared* to drill a hole in a thingie, for fear a little red goblin'll pop out and set your beard on fire! Scared, that's it! Ain't it, Quill? Scared of thingies that any dirt-poor kid'll build a bed out of and sleep in? Scared!"

Quill lunged and got only half a swing in at Mike's jaw before the farmers closed in and grabbed him on all sides. Mike ducked back, yelling "Hold him, boys, and I'll fix this thing in two shakes!" over his shoulder while he grabbed for his carpet bag. I saw some tools and the measure tape come out onto the dirt, then Mike tossed me his copy of *Banger's Big Book*. "Ike, go drum me up a Cricket-Leg Bar #42, like we use on *Sam'l*! Haul it!"

I hauled. The farmers all pulled back, and I ran for the thingmaker at the center of the square, where some pedlar was hammering out a private drumlin on contract behind a curtain, with five trained dogs howling like banshees to mask the rhythm so nobody could memorize it. The farmers pulled down the curtain, and somebody threw a live squirrel at those dogs, which were halfway past the courthouse in three breaths. They grabbed the pedlar by the neck and hauled him back, and a boy hammered on the Sun Pillar to finish the drumming until the dust boiled up some useless thingie like a flower all made of tiny forks.

Mike's copy of *Banger's Big Book of Drumlins* is the fancy one with the rack and cord tucked inside the spine, done up in tooled blue leather. I pulled out the cord and threw it over my neck and unfolded the rack so it set on my chest and kept the book open. We use cricket-leg bars a lot back home and I followed the grease smudges to the page where #42 was laid out, rhythm and all, and as soon as it set right with the bookspring down I started to drum.

One bad beat can change a drumlin to a thingie (though one man's thingie is Mike Grabacki's drumlin, most times) and #42 was a weird one, with no real pattern. Facing the page where Hermann Banger's son Henry drew the drumlin were the rows of symbols to drum it up, yellow suns and blue moons, in thirty-two rows of eight. Mostly you drum a row, take a breath, drum another row, take another breath, and on until you're done. I found myself holding my breath for three rows straight until I figured I was purple, and was glad the farmers were still holding that pedlar, kicking and screaming as he was.

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But I didn't really start holding my breath until I hit the last beat, and stared at the bowl while the dust boiled. Something broke surface and kept coming, a long skinny something in that strange blue-glint silver metal that most all drumlins are made of. It rose arrow-straight vertical out of the dust, first one leg, then the kink, and then the rest of it. The dust holds it up until somebody grabs it, then it lets go and you've got your drumlin. Three farm boys took it out of the bowl, even though one could do it with only a little puffing, two meters long and then some, with a ten-degree kink almost in the middle, the shorter leg a little fatter than the longer one.

Two farm boys galloped behind me with the cricket leg between them, all the way back to *Mazeppa*, where Mike had his sketchpad full of sketch, and a big drumlin diamond drill in his brace and bit. Mike knelt over the cricket leg and did his magic with the measure tape and diamond scribe, and I leaned into the brace and drilled four holes where he'd marked them. Drumlin metal doesn't scribe with anything but diamond, and the drumlin drills just sort of eat into it, as if the metal knows it's being chawed by one of its own, and just gives way.

It took some work to get it mounted right, but with Quill Nunday watching from behind five tall farm boys you wouldn't want to mix with, Mike Grabacki and me got that cricket leg in place on the bearings and bolted in hard. Then they turned Quill loose, and he looked the cricket leg over like you'd look over a skunk that's been dead in the road for three days. "You cain't tell me that skinny bent thing won't break three puffs after we pull."

Mike shook his head, wiping his hands on an old red towel like he always does after a job. "Not only won't it break, you won't even see it flex. And if it does break, I'll hand you the rest of my daddy's fortune so you can be the idler you want to be, and chase skinny women around inside mansions. I stand by my work, Quill."

Quill'd like to take another poke at Mike for that, but those farm boys were still there, each hitting one fist into the other palm, and Quill thought twice. "We're steaming up!" he yelled instead, so everyone would get back away from *Mazeppa*—and out of his hair.

Mike and me only laughed, and threw our carpet bags up into the last car, with the peaches and the chickens and the potatoes they've been waiting on for three days up at the capital.

Iron was *the* problem. Mike and I talked about iron a lot on our way to the capital. Three days, two nights, eight short stops for water and coal, riding in an open car under mostly the best September weather I've seen. Mike sat on a barrel with his boots up atop a chicken pen, tossing cracked corn in to the chickens through the slats. I just laid back on a big bin of barley with a blanket tossed down, arms crossed behind my head, watching clouds go by while we talked, *Mazeppa* puffing away six cars up.

Iron is expensive, for all the work to mine it and haul it, so what doesn't go into the railroads mostly goes to small things like horseshoes and wagon parts, which are used over and over until they're gone. Mike works iron in his forge, but he can never get it when he wants it, and we bought all the horseshoes people dared sell us to make *Sam'l*'s teeny little boiler. That's why everything Mike can make out of drumlins, he does.

Some drumlins aren't metal at all—the diamond bottles, lenses, and window panes, the hanks of rope, the little pillows full of glue, and all sorts of

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weird thingies with no use that look like globs of melted glass. Everything else is drumlin metal, which you can drill with drumlin drills and turn with drumlin bits, but no one has ever seen melt. Government science people with their microscopes insist that the thingmakers are for the sake of the unknown people—called Gaeans after the type of planet we all favor—who built them. Mike says the Gaeans saw us coming, and that the thingmakers were for us from the start, so we could get a foothold on this planet with simple tools that come of simple rhythms and work our way up to their level, where we could understand what every weird thingie in *Banger's Big Book* is actually for. He's a believer, in God and angels and the whole Old Catholic religion, and a lady named Julian who God told up front and in her face that everything will turn out all right in the end. Me, I got some problems with God, like why He let my daddy beat me bloody all the time when I was little, but Mike's the boss and I don't argue with him about questions with no answers.

The government wants iron—*lots* of iron—and wanted people to mine it and smelt it, but there were no takers. Farming's a good life, and if one axe breaks you drum up a new one. Who'd want to crawl on their belly in a hole, dragging up rocks all day? Almost nobody, so the government started its own mines, and made prisoners do the digging. Crime rate fell real good after that, and there's only so much iron coming up. So the government is kind of pouty and won't sell the iron to anybody but people that say all the same stupid things they do: That the only thing we all ought to care about is fixing old *Origen*, that you can see most nights like a star crawling against the sky, and then high-tailing it back to Earth.

There's not even a million of us here in Drumland. The government wants iron mines and copper mines and aluminum mines and microsphere fabrication plants and above all Ytterbium (whatever that is) to fix *Origen*. Trouble is, food doesn't come out of thingmakers, and most people like being farmers, so the government gets mostly rich people and no-accounts like Quill Nunday on its side.

Mike and I want to buy enough iron to forge *Sam'l Borden* a respectable boiler, but the government says that all the iron is spoken for, mostly by the government's pet horseshoe smiths and Luke Gorman, the main railroad man. Mike just grins when he says that, and peeks over one shoulder when we go around a curve, to watch that drumlin cricket leg pump and pump on *Mazeppa*'s wheels.

Quill dropped our six cars in the shed behind the capital roundhouse, where Mike and I jumped off, with Quill bumbling after.

Behind the roundhouse are the offices of the Valinor and New Scottsdale Railroad—those being the two cities farthest apart—and that's where we went. We strolled right in the door, waving to the ladies and the messenger boys, to where the V & NS mechanics were at their tables drawing bigger and more iron-hungry locos. There, at a monster oak table you could build a dance hall on, was the railroad's big man, Luke Gorman himself, looking over the shoulder of the only bigger man there is: Chester A. Arthur Harczak, president of the whole damned government of what city people call Valinor and country people call Drumland.

President Chester is a little short and getting pretty bald, and he's got those big wild hunted eyes like a rabbit in a dead run ahead of a wolf. Luke Gorman stood behind him with his arms crossed, black Irish and a head

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taller than any man present, lean and well-carved in the face, with green eyes that make women melt, and a charcoal-dust beard that shows up right after lunch even if he shaved at eight A.M.

"Mr. President, Mr. Gorman—brought my Race papers in person," Mike said, waving the bundle of forms we filled out months and months before.

The president sneered, which in a big-eyed man is a funny thing to see. "You got yourself a boiler yet?"

Mike shrugged. "Well, we're buying up horseshoes as we can get 'em, but even half a tonne of pig iron would do the job way quicker."

Chester rose up hard, knuckles down on the table, like an ape. "I will *not* sell scarce iron to be built into any machine stitched together out of alien artifacts."

Another voice came up from behind us. "Mr. Gorman, I'm back, and I have to apologize for the breakdown. It was *Mazeppa*'s left main tie rod. Compression crack, couldn't pull . . . until . . . until . . ."

"Until *what*, Quill?" Gorman's voice was as deep as the man was tall.

"Until I stitched in one of them alien artifacts and made it go," Mike said. "Quill woulda sat there until the farmers hung him if we hadn't drummed up a new tie rod."

"It was *you* incited the riot, Grabacki!" Quill's forehead veins were sticking out again.

Gorman came up behind his man and put a hand on Quill's shoulder. "Take it down a notch, Quill. Mr. Grabacki, the V & NS thanks you for helping us get perishable cargo to its destination. Send us an invoice for your time and effort, and your 'prentice's too."

Mike shook his head. "I'll take my fee in iron."

"You will do no such thing!" President Chester said. "I own the iron, and even the V & NS is on allocation. And you can take your papers and burn them, because the Race is for native technology, not alien technology! I told you that last year when we announced the Race. I am not going to change my mind."

Mike pursed his lips and nodded. He dug into his carpet bag and pulled out the sheaf of papers on which the Rules were printed. He spun them across the big oak table until they stopped at Chester's knuckles. "Show me where it says, Mr. President."

"Says *what*?"

"That the Race is limited to native technology."

The president spun the papers back toward Mike, but his fingers were shaking and the papers flipped into the air off the table's edge. "*I* say so."

Mike shook his head, all solemn now, which for Mike means about what it means when a rattler starts to rattle. "Contests are regulated, Mr. President, and I'm not all entirely sure the courts would agree that the Rules isn't a binding contract—on the government. And you know as well as I do that the Rules make no statement at all about what kind of technology a loco can use."

Mike locked eyes with the president for a long time, and nobody seemed fit to budge. About then Mike finally revealed his trump card, in a voice so low it was almost like the voice you use to a girl in your bed. "I heard seventh-hand, by the way, that nobody else even started a loco to enter. It's your *Star of Valinor* against my *Sam'l Borden*, and without *Sam'l*, there's no contest. And no way to show off your pride and joy. No way to prove that drumlins don't stack up to poured iron."

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The president looked his big buggy eyes over at Mike, then up to Luke Gorman, and back to Mike, then up to Gorman again. Gorman nodded.

Beaten, the president growled something you couldn't understand, then looked back over at Mike. "Enter, then—but if you're so damned sure your alien geegaws work better than iron, make your machine out of geegaws. *All* geegaws. No wood, no iron, no copper, *nothing*. Everything comes out of thingmaker dust—or nothing at all. And Mr. Grabacki, I don't think you're mechanic enough to do it."

That was always the wrong thing to say to Mike Grabacki—not that Mike never oversteps himself a little on a dare. He was talking loud now. "Not only am I mechanic enough to make *Sam'l* run with nothing but drumlins, he'll beat *Star of Valinor* by your own rules, *and break one hundred klicks an hour doing it.*"

Silence fell for a moment. The mechanics at their tables were watching now, pencils tucked over their ears, not moving a whisker. One hundred klicks an hour!

Luke Gorman crossed his arms again, his lips pressed together. His deep voice stayed soft, coated with that purely murderous confidence rich people are born with, even if it sometimes kills them. "One hundred twenty. *Star* will do one hundred twenty."

Mike licked his lips. I knew what was coming next. I wanted to crawl under the table.

"One hundred fifty!"

"Then do it, Mr. Grabacki!" Gorman rumbled, his green eyes fierce. "April 1. Be here. And take what fool's grace you can from the day!"

Mike nodded. He turned on his heel and I turned behind him, the rules papers crunching under his boots as we left.

Empty but for some sewing machines and bolts of wool cloth, *Mazurka* took us back to Colonna, it being *Mazeppa*'s twin and just as ugly, with a young mechanic named Jack Hrypich driving that Mike didn't know. Jack wasn't bitter like Quill and we sat up front with him a lot, and listened to him babble out all the nonsense the government had poured into his ears at the Bitspace Institute. Earth was a wonder and he couldn't wait to get there, to see a place with four billion people in it, the sky full of airplanes, and electricity living behind holes drilled in every wall, not just in government labs. At night he'd share his diamond bottle of corn whiskey with us, him tossing back more than he should, and when he went back behind the tender to sleep we heard him crying into his hands from some private pain no young man should suffer.

I long since stopped wondering if Earth is worth all that pain, and I'm sure by now it isn't. Airplanes be damned—on Earth a man is born with nothing, and has to work like a slave just to buy an axe and a plow to get started, if there's any land to plow or even sit down on after four billion folk claim their places. Here in Drumland a clever man with a copy of *Banger's Big Book* can step up to a thingmaker and drum up the framework of a good life in an afternoon, just adding a wife, some seeds, a mule, and a few new-hatched chicks to make it all happen. If Earth has anything to beat that I haven't heard it yet.

The ride back to Huffer from Colonna was lonelier than the ride out. Mike was deep in thought most of the time, and the couple of drummers we

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stopped and talked with had most already gotten Mike's paper with the boiler sketched on it.

When he did talk, he talked about how we might make a boiler out of a cluster of that big Hollow Ball, #6, connected with drumlin pipes and hanging like silver grapes over a fire. He said not word one about the boiler he was wishing for, and I knew why: He never really expected to get it, even now that we needed it worse than ever. The Intro to *Banger's Big Book* says plain and simple that there are one point five eight times ten to the seventy-seventh power different drumlins to be had out of the thingmakers. The number doesn't mean much to me (we didn't get to powers before I left school) but *Banger's* goes on to say that that's one million different drumlins for every atom in the universe, and if you pull one at random and don't write it down, the world'll never see another one like it no matter how many times people try to drum it up again. So while drumming random rhythms may sometimes give you something you can use, it'll never but *never* give you exactly what you want, no matter how hard and how long you wish and drum.

Still, when we got to the thingmaker overlooking the Big Lumpy River, there was nobody there, and it was dusk, when all the best wishes are made. Mike sat high in the saddle looking down into the valley, and pulled out Rosa Louise's wishing-whistle drumlin. He put it to his mouth and blew hard. There was something come out of it, a complex something so high I could barely make out that it was music, ranked together in harmony like a church choir reaching up to blend with the angels. His old horse Coolie is a little deaf and didn't twitch, but my Granite reared up and wanted to run, so I almost missed about the strangest thing that's ever happened to me up 'til then:

Inside my shirt and hanging on its chain, my good luck piece, which is just dead drumlin metal like all of them, was fluttering like a caught bird against my breastbone, trying to sing or fly or both, all the while that Mike's whistle sounded until it died away in echoes against the smoky purple sky.

And when we got back to Huffer three days later, there in the dirt by the forge's front gate was a drumlin boiler.

Mike believes in God but he never seemed superstitious, and for days he went around muttering, "Well, it's not like we never told nobody what we wanted." Mrs. Luchetti, who rents the cottage across from the forge gate and cooks for us most days, said that an old brown man and two boys brought it on a big mule cart, dumped it in the dirt, and went right back west toward Bushville. Stuffed into a pipe hole on one end was a length of sheep gut with some paper rolled up in it, and a note in block writing, unsteady like an old man would do it:

HEARD FROM FOLKS THAT YOU NEEDED ONE OF THESE. DON'T WANT THE TEN THOUSAND HANDS BUT A GOOD BOY LIKE YOU COULD PUT NEW ROOFS ON A LOT OF OLD HOUSES WITH IT. REMEMBER, AIN'T ANY OF IT OURS, JUST BORROWED.

+C RODDIE, WHO DRUMS

After that was the thirty-two rows of rhythm that tells how to drum it up, in the shorthand that most folk use, a cross for Sun and a little arc for

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Moon. Mike yipped and danced when he saw that, and folded it up carefully and put it in the pocket inside the back cover of his *Banger's Big Book*.

Who this Roddie was we didn't know from Adam. There is a story people tell and swear by, though, that there's a drummer goes from town to town at the edges of where people live (like Huffer was only thirty years ago) who can drum up anything people ask for, as though he knew the whole drumlin mystery by heart, all those millions of drumlins for every atom in the whole whatever—and never ask a knuckle from the people who want them. The government's gone looking for him more than once, but he seems to know the land better than they do, and the town people always point toward the nearest swamp when government people ask after him.

That was good enough for Mike, and made his wish a coincidence of some drummer's skill and not a miracle. But when I asked Mike to blow Rosa's whistle again while we watched my good luck piece to see if it would dance, he only smiled and said, "Having got a wish as big as that, Ike, I think I'll stop wishing for a while." And when I turned away and he thought I wasn't watching, I caught him from the corner of my eye making the Sign of the Cross.

We didn't waste time after that, it being October 1 and people starting to light fires at night. *Sam'l*'s shot all through with native stuff like wood and horseshoe iron. Me and two hired boys from town winched him up on oak beams and took him apart bolt by bolt. Mike all the while was bent over his table, drawing on paper what the new *Sam'l Borden* would be, starting right with that new drumlin boiler, and working out from there.

The boiler was longer and skinnier than we sketched (not that that mattered a knuckle) and bulged out like a sausage on one end, but bulged *in* for the same measure on the other end. It had small holes here and there, and two big ones at the center of each end. And like most big thingies, it had tabs and barbs and bumps all over it, which were handy for mounting it to the frame and for mounting pipes and things onto it.

The old frame was oak reinforced with thin tie bars of horseshoe iron—what iron we had we mostly put into that pitiful little boiler—and Mike junked it whole. He sketched a new frame made from drumlin cricket legs and long forks, of which we had stacks out behind the forge, in all the sizes *Banger's* lists, plus a few odd ones people drug in over the years. Drumlin metal, light as it is, is stiffer and stronger than anything, and when we bolted together the frame in Mike's new plan, all triangle-braced with the long forks gripping the cricket legs between their tines, ten kids and their big brothers could jump on it and nothing even squeaked.

The forge burned all winter though we didn't forge a thing but a broken wagon part now and then that a farmer brought us. Mike wanted our hands warm and supple while we worked, not half-frozen as we usually did. Both cylinders were made of horseshoe iron, and had to go as well. There are thingies shaped like cylinders but they're mighty thin, and Mike needed to be sure they wouldn't blow up under pressure. So a lot of the winter we spent hooking up drumlin pipes to drumlin fittings, and stoked fires in the new firebox made of bolted together thingies under the drumlin boiler while watching the pressure on Mike's hand-made gauge. Pressure that bordered on fantastical, that pegged the gauge and would have split *Sam'l*'s old boiler like a cleaned fish, didn't faze the cylinder drumlins.

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February was mostly gone when me and the hired boys stood back and watched *Sam'l* set on blocks with wheels off the floor, steamed up and howling, while Mike stood on the deck and pulled the throttle. The four big Wheel #34s, meter and a half wide and the biggest wheels ever found in the thingmakers, spun good, the cylinders spitting their spent steam to either side with that fine weird smell of grease and drumlin metal. He pulled it more, and the big wheels spun faster, the cricket-leg beams walking so fast you couldn't but see a blur. I edged the dynamometer under one big wheel, and touched its little wheel to the edge of the big one, my hair whipping in its draft, and read the dial up to Mike in a dead shout:

"One hundred sixty-one clicks per hour!"

Mike howled and hooted, and we broke out a rare old bottle of wine that night, and even gave the young boys some. *Sam'l Borden* was done and reborn, and not a thing was in him that didn't come out of a thingmaker's dust.

Mike waited until after Breakwinter Festival to leave for the capital. The square was all mud but we danced by torches anyway, with *Sam'l* at the center of the square beside the thingmaker, enthroned on a four-mule cart, with spare drumlins and the tender on a second cart.

Mike promised he would dance with every woman in town and he did, and nobody got riled, everybody knowing that Mike's only love was Mother Polly, who lost her man twenty years ago and swore she wouldn't never take another husband. She danced with all the men, and the women didn't get riled for the same reason. When finally she danced a wild reel with Mike, and her long gray hair flew out like a dust flame from her black habit, you knew there was a fire inside them both that wanted to burn in the same grate but couldn't, and if there's anything sad in Mike it's only that.

Then the St. James church choir sang "St. Patrick's Breastplate" while Mother Polly walked all around *Sam'l* and blessed him with the holy water wand, and if Mike took it hard (that being a prayer against evil spirits, after all) he gave no sign. Love sometimes just means seeing the good in things as best you can, and she kissed Mike on the forehead while he knelt by her in the mud to ask her blessing on his own head too. And next morning we hooked up eight mules and headed off for the capital.

I woke up before dawn on April 1, hearing the clink of tools. The big door on the shed they gave us to use was open, and the night had a frost on it. Outside the shed door I could see Mike up on the catwalk beside *Sam'l*'s drumlin boiler, black against a pink sky streaked yellow.

I hauled up on the cricket-leg frame and stood beside him. He was tightening in a new pipe to one of the holes in the side of the boiler that we had plugged back in Huffer. On top of the pipe was Rosa Louise's wish whistle, mounted to a drumlin cross-lever valve.

"Wasn't sure I wanted to do this 'til this morning, Ike," he said. "I don't much like talk of magic, and metal's just metal, drumlin or not, and it can't dance by magic nor listen to whistles."

"My good-luck piece sure liked to have flown right out of my shirt when you blew that thing!" I said, like I'd told him too many times by then.

He didn't say anything for a long time, drumlin wrench in his hand. "Yup. And the cross I made for Mother Polly, the one she wouldn't take 'cause it was drumlin metal and ungodly, tried to crawl out of my pocket like a bug.

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Sometimes I wonder if Polly's right, and the government too. We don't own this world. We're just borrowin' it, like the old man wrote. And maybe doing what we do with the thingmakers is like giving an eight-year-old the run of the forge. Maybe he'll build something—but maybe he'll burn himself to death, or lose an eye."

I pointed at the wish-whistle. "That tells me you can't be too 'fraid, or it'd still be in your pocket."

Mike grinned, and he stuck the wrench back in the toolbox. "I got one more wish, Ike, and one only. Polly don't much like drumlins, but she knows the people need them, and she still blessed *Sam'l* back in Huffer—and me too. There's a balance somewhere, a place where things work and do what you tell 'em, and finding that place is what mechanics do. If I was afraid I'd be like Quill, and there's no future in that. A thingie is a drumlin that we don't know what it's for yet. This whistle is a drumlin. I intend to find out what it's for."

The Valinor and New Scottsdale Railroad had set up grandstands five klicks outside of town, by the stretch of twin track that heads northeast to New Boston on the seacoast, and come noon the rich folk had filled them. Ordinary people stood along the tracks behind the rope, gaping at the locos sitting side by side, steaming up.

Luke Gorman's mechanics had swarmed over *Sam'l* that morning, looking for contraband iron or wood, and went away slapping Mike on the back and wishing him luck. The government's Bitspace men came by too, mighty interested in drumlins for all that they tell people not to use them. They asked Mike if they could have the rhythm for the boiler, and Mike told them straight out that it was a private drumlin, and the price was fifty tonnes of pig iron. One told Mike they'd get it sooner or later, and not by hammering the pillars at random. Mike doesn't convince easy, and he doesn't threaten easy either, but he made me check every bolt on *Sam'l* another time and then again.

Star of Valinor was on the east track, and all morning *Sam'l* had sat in its shadow. Luke Gorman's new loco was huge compared to *Sam'l*, all iron except for some wood in the cab. The design was from an old book that came from Earth in *Origen*: Four big two-meter wheels with horizontal cylinders, and a leading bogie to support the front of the boiler and help take curves. Its tender alone was bigger than *Sam'l*, heaped high with hard coal from the new mine at Hemingway.

It was supposed to be a stopwatch race, to see who could cross ten klicks in the least time, but with two tracks and only two locos entered, Luke Gorman decided it would be a horse race to cross a finish line a klick past the Dohe River bridge, and whoever got there first won.

President Chester made a speech that was all his usual wind, though much applauded by the rich folk. He acted like *Sam'l* wasn't even in the race, and just bragged how we were re-creating Earth's technology, and how it wouldn't be no time at all before we'd all cram into *Origen* (ha!) and fly right home.

We all knew it wouldn't be the poor folk to fly home to Earth, and I got the impression the poor folk weren't exactly pulling out their hankies over it.

Once both locos were steamed up and ready, Mike and I stood between the tracks in front of both *Sam'l Borden* and *Star of Valinor* and gauged our chances. *Star* was huge, and had bigger wheels, but we were sure it weighed

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eight times what *Sam'l* weighed, with all that iron to move, and would need time to get to speed. *Sam'l*, by comparison, looked like some kind of big bug, wearing its skeleton on the outside without no skin, all crisscrossed cricket-leg bars and forks for a frame and two big walking beams that looked a little like bug-legs themselves. Its wheels had that same strange swirly-curvy art to them that most drumlins have, even though they're perfectly balanced and so round you can't measure any error. I had thought then and before that *Sam'l* almost looked like something you *grew* instead of built, and it wasn't always the kind of thought that you think to help you get to sleep on a bad night.

Finally Mike and I were up on *Sam'l*'s open deck, waving our flag telling the railroad people that we were ready. The V & NS man with the synchronized stopclock stood on the green line they'd painted across the tracks and ballast, only a meter ahead of both locos. He held the clock high in the air for a long ten seconds, until the government man with the two-wheeled cannon touched a brand to the port and fired a blank that thundered and echoed to the south hills.

Mike hauled the throttle back, and I heaved down on the left beam, for luck more than anything. *Sam'l* lurched forward, as quick as he had on our test runs, and quicker, spitting steam that whipped around and vanished with a sound like a child trying to blow out birthday candles, compared to the great deep puffing roars of *Star* venting its cylinders. We were three lengths ahead of *Star of Valinor* before the cannon's echo came back, and the rich folk were standing in the grandstand and yelling.

But we were yelling too, both of us, stamping on the deck and waving, as *Sam'l* pulled ahead of *Star*, and after ten seconds we had a hundred-meter lead. We had no pressure gauge, nor even a water glass—Mike hadn't had time to work them up in drumlins. He had more faith in drumlin metal than I had in boilers—having seen two little iron jobs blow up when we first started learning steam years back, and take the track out from under them. So we were running on faith, pure faith, as I shoveled more coal into the firebox, not knowing if the drumlin boiler would hold all that pressure, and knowing we would never know if it didn't until St. Peter told us.

It was all show. Mike had done some math, and he knew that we would need every meter of lead once *Star* got going. Mike says he doesn't like horizontal cylinders, but I knew it was because we couldn't work up a big slide bearing for the side rods out of drumlins. Our biggest fear was that the walking beams would shake loose of their bearings at the speeds we were reaching for.

Star of Valinor seemed to be starting awful slow, and I wondered if Luke Gorman had told his driver to give us a little lead for show, then pull past for drama as we crossed the Dohe River toward the finish line. I kept shoveling, and adjusting the windscoop to feed blast to the fire and keep those coals white-hot.

Mike was watching the walking beams for wobble, pulling back more and more on the throttle as seconds passed. He was feeling for the wheels' grip on the iron-strap rails, knowing that we were light for the power we had, and that if the wheels lost traction and started to slip, we would lose speed we might never make up. *Star of Valinor* was unlikely to lose its grip on the rails for all that iron pressing down, but a few seconds' slip could put us in the big loco's smoke for good.

We might have been almost a klick off the start when it got obvious that

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Star was closing the gap. Mike stopped watching the beams, and had one hand on the cricket-leg frame and one hand on the throttle, pulling forward notch by notch as he felt for traction on the wheels. By then I was sure we were doing seventy klicks an hour, faster than any loco we'd ever built or rode on, and the wind was a coal-stinking roar in my ears. Watching the beams hurl up and down from the shop floor had been scary enough; now they were pumping like fury half a meter from my left shoulder, and one hit would turn my arm to pulp.

Half our lead was gone. *Star of Valinor* was pulling up on us, and we had already passed the four-klick marker. Mike's face was a grimace, and I saw sweat and knew it wasn't from the firebox heat. He hadn't pulled further on the throttle for long seconds, and I knew what he was feeling: *The wheels were slipping*. Down beneath us was an uncertainty expressed in small lurches, but it wasn't any bumps in the new track. *Sam'l* had plenty of power, but didn't have the mass to pull more acceleration from the friction between four drumlin metal wheels and the track's strap-iron rail. The only way to win was to slow down enough to let the wheels grab again, and then try to make up speed.

Mike pushed back on the throttle, and we felt the acceleration back off to nothing. I was getting the sense for the track now that Mike was feeling, and I felt the wheels take hold again. But *Star* was having no such same problems, and it was hurtling up from behind. Mike pulled forward on the throttle again, and we began to build acceleration, more slowly this time, feeling for the wheels through the frame and praying.

Six klicks gone now, and although we still had traction, *Star of Valinor* kept pulling on us, and was three lengths back, then two, and then, pouring smoke like a black cloud and billowing steam in one continuous roar, it pulled beside us.

It seemed to pause there and I felt like a fly stuck in a molasses jar, seeing *Star*'s fireman waving at us and knowing it didn't look good. Luke Gorman was no fool, and no braggart. If he said *Star of Valinor* would do one hundred twenty klicks per, it was because his mechanics had done the math and knew the truth of it. When Mike said so, he was working on faith and a gut sense that had done him proud in his fifty-one years, and he only used math when he had to.

Then *Star of Valinor* pulled ahead. The fireman tugged on his rope, and *Star*'s big steam whistle cried out in salute, or maybe insult. It was a warbling, wandering whistle that said sloppy ironwork, but what did they care?

I froze, shovel in hand. *My good luck piece had twitched*, once, twice on its chain by my heart, while Star's whistle blew. More than that: *Sam'l himself* had twitched, the drumlin metal of the cricket-leg bar I was gripping went to crawling under my sweaty palm like gooseflesh.

I pulled my good-luck piece out of my shirt and threw it away, and wanted to yell for Mike, but just then *Sam'l Borden*'s left walking beam popped its bearing and ripped free, swinging back like a giant's baton over our heads, missing our skulls by half a meter or less, and spun away to bury itself cylinder-end down in the ballast between the tracks. *Sam'l* shuddered when the wheel pivot popped, but he stayed on the track.

Mike howled in anger, and he pulled forward on the throttle until it hit its stops, and I felt the wheels screaming underneath us, trying for traction against the rails and not finding it. *Star of Valinor* was way ahead of us

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now, and without our left beam we'd be lucky to finish the ten klicks at a crawl.

Mike shoved past me, cursing like he almost never does, and he was grabbing for the drumlin rope-loop that was flapping in the wind, and tied to the cross-handle valve that fed steam to Rosa's wish-whistle. One good curse deserves another, I guess, and besides, I knew what Mike's one wish was. I could see it on his face. I could practically hear it echoing in his skull, with all the fierceness that he never shows to nobody but hot iron gripped in tongs and sometimes me:

Speed. Speed. Speed! *Speed! SPEED!!*

He pulled the rope loop, and Rosa's whistle sang.

It sang like you'd think angels would sing, so high as almost not to hear, but to feel in your bones, not one note and not even one chord, but a song like chords dancing in fours. . . .

Dancing. Under our feet, and under our hands, *Sam'l* was dancing too, dancing in time to the whistle. I looked down, and I dropped the shovel. The bolts were popping out from all over *Sam'l*'s frame, but instead of flying apart, the cricket-leg bars and forks and fifty other types of thingies were softening and stretching and melting together into something that had no bolts and no seams anywhere.

The right beam kept pumping, and somehow we were holding speed.

Mike panicked, and pulled the rope-loop the other way to shut the valve, but he pulled too hard and the rope came free with the whistle still singing. He launched forward onto the catwalk to shut it off by hand, and I stumbled back, grabbing a twisting, throbbing metal bar in one hand before the right beam could brain me.

I wanted to follow Mike, but just then the boiler itself started to stretch and bulge like a sausage pumped too full of meat. The main steam pipe stuck into its back center hole spat free, and a jet of live steam that would have cooked a man in a wink roared out a meter away. I watched for a second and the hole in the boiler end was growing, the steam jet spreading out without getting any less strong.

That was enough for me. I squeezed onto the catwalk between the twitching boiler and the hammering right beam, edging forward just to get away from the failing end of the boiler. I was pushing past the right beam's bearing when it popped too, the beam tearing back and vanishing. Nothing was pumping anymore, and we should have been stopping.

But no: *We were accelerating*. I looked back, and there was a cloud of steam leaving the back end of the boiler like I never seen come out of a loco, screaming in answer to the whistle's angel chord dance, pushing back hard like steam does when it makes a jet.

I knew about then that we were dead, but I didn't want to watch myself steam-cooked, so I kept crawling forward, hand over hand on the triangle frame, now stiffer and stronger without bolts. I could see Mike's head edging around *Sam'l*'s nose by the cylinders, his gray hair whipping atop his thin spot.

A new sound was rising now. I looked up the wall of the boiler, and saw cracks opening up along its length, spreading into gaps and bulging out into scoops, making the air howl as it was trapped. And no sooner was that done than I felt us picking up even more speed, and fast.

"Ike!" Mike was yelling from *Sam'l*'s nose, and he was waving one arm at me. "Ike! Get ready to jump!"

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Jump? I was hanging on just to keep from falling from the acceleration, and from the speed of the trees whipping past beside the track I knew we were getting close to Mike's brag of one hundred fifty klicks per hour. Jump from that and you were pulp. . . .

But Mike was pointing, and it wasn't at *Star of Valinor*, on whom we were gaining fast. Coming up was the Dohe River Bridge.

"Ike! The river!"

A man set to hang will grab any rope that doesn't have a noose on it. I crawled further forward until I was beside Mike, we both gripping the drumlin metal bracket holding the boiler in place. He had one hand free, but holding it like it held a lit firecracker, too dangerous to keep and too fascinating to let go. I looked at his hand, and sticking out between his fingers were the arms of Polly's drumlin metal cross, thrashing and twitching like a creature alive. I understood then what makes Mike crazy sometimes, caught between his God and his thingies and God's woman that he loves but can't never have.

I was watching that cross thrashing in his fingers while we passed *Star of Valinor* in a roar, and then we were out on the bridge and there was only water beneath our feet. Mike let go the bracket, and reached out for one second to squeeze my left shoulder. Then he kicked free, and I watched him arc out over the brown water for only a second before I kicked too. But I twisted around as I went, and I saw *Sam'l Borden* come clean apart on the bridge, his tender rolling twice over in a spray of coal before going into the river, his drumlin boiler ripping free of its frame and taking to the air on a column of steam, howling with a piercing, vibrating scream I'd never heard before and never did again.

Then I was clawing water, cold snowmelt water from the Cobbler Mountains up north, snorting through my nose and getting into a stroke that would bring me to shore before I got numb and died.

Mike and I were sitting with our backs against a big oak by the riverside, just shivering, when a crowd of men came down the trail from the tracks and surrounded us. Most were V & NS railroad men, but some were the president's bodyguards. Somebody was pulling Mike to his feet, him shaking his head and still dripping, and sure enough, there was President Chester himself, standing behind his goons and screaming like short men do when they'd be better off looking imperial and making sense.

"Michael Grabacki, you are under arrest for reckless endangerment of people and government property!"

Mike had nothing to say. He reached in his pocket, and I saw the goons going for their guns, but what Mike pulled out was Polly's cross, now just a cross and not some magical metal with a will of its own. He looked at it, nodded, and smiled.

"Do what you want, Chester. I got my last wish."

"Cuff him and drag him back to the track," the president said. One of the goons had handcuffs and was going for Mike when we heard a shot echoing across the river and back.

Up the trail toward the track stood Luke Gorman, with a rifle in one hand, pointed at the sky. The fifteen or so V & NS men then pulled out pistols and held them at ready. "Chester, tell your men to drop their guns."

Chester A. Arthur Harczak's wide eyes looked fit to pop out of his head. "Luke, dammit, don't forget who I am!"

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"I couldn't forget who you are no matter how much I'd like to," Gorman said, his rumbling voice stern. "Have them drop their guns. This is my land, and my police have jurisdiction. You're not immune from arrest except on election day, which is a whole year off yet."

Chester looked at his men and nodded, and five pistols hit the dirt. Luke Gorman came down the trail and handed his rifle to one of his police. "Mike, what you thought was a boiler was apparently a dual-mode zerospike booster, something like what makes *Origen*'s shuttle go, only smaller and much more powerful. If you have the rhythm, we need it. Give us that, and you'll get all the iron you want. I'll even say you won the race."

Mike shook his head, and he started to smile, maybe getting a sense like me for who *really* ran Drumland.

"*Sam'l* came apart before we ever hit the finish line. You won it square, Luke, and you've got one miserable fine loco in *Star of Valinor.*" Mike pushed some gray wet hair up out of one eye. "And you can have the rhythm for free—I'm a steam mechanic, not a spaceman. Trouble is, the rhythm was writ down on paper in my copy of *Banger's Big Book*, and that was in my carpet bag beside the firebox. Wherever *Sam'l*'s frame and firebox ended up, that's where the rhythm is, and nowhere else."

Gorman's green eyes darted back and forth for a moment. "Simon, Charley, go get boats and ropes and drag the river. Chase anything floating downstream." Half the railroad men left.

Gorman turned back to Mike. "Mike, I must say, that was quite a show. You can have a job at V & NS any time you want one—figuring you've been cured of your desire to build from thingies."

Mike shrugged. "Cured? Not hardly. Just got my mouth watering, in fact. I was just thinking about tracks and how much iron they need, and how it might be better to build steam into steerable vehicles. I have some sketches. . . ."

"Automobiles are illegal in the capital!" Chester Harczak announced like he was telling us that apples fall out of trees. Luke Gorman owns the capital's trolley system too, and he isn't big on competition.

"Sure, Mr. President—which is one reason out of a whole heavy cartful that I'd as soon be going home to Huffer."

We rode back to Colonna in the cab of *Star of Valinor*, and the crew showed Mike how it all worked, with much back-slapping and steam-talk and admiration on all sides. The young fireman offered up a theory three nights out that Rosa's whistle was called a function controller or somesuch, and that when it sounds off drumlins do what the Gaeans really designed them to do, and not what we numbskulled Earthmen try to make them do. And sometimes a cracked iron steam whistle, or even a kid's mouth puckered just right can make a sound that means something to a drumlin, but only a real drumlin whistle can turn a loco boiler into a rocket engine.

The government is happy believing that, and Mike and I are glad to nod our heads and not say more. They never found the boiler or whatever it was, and some say it's on the bottom of the western ocean, others that it went clear to space, waved at *Origen* and kept going. Nobody'll ever know, but in truth, there's something a little bit spooky about whistles, and wishes, and drumlins—and if we ever figure out just what, things are going to change. Just you watch. ❍

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THE GREAT DIVIDE

Forget the white light beckoning
and the receiving line of your ancestors
with background music by an angel chorus.
Death isn't like that at all.
I've talked to ghosts
who've been through it
and they've told me:
How that white light
is an afterimage left over
on your retina. It disappears
in a few minutes and everything
is dark. And what about all your
relatives greeting you as you enter?
Nope. Just some generic figures
lining your pathway like Wal-Mart greeters
doing their jobs and nothing more.
Do I need to go on? The music:
whatever you happened to be listening to
at the moment of death.
Imagine a TV show theme
stretched out to infinity.
No wonder so many of them
want to come back to this world
and spend some quality time haunting us.
No wonder it takes a while
to get used to the way
they do things over there.

—Mario Milosevic

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HANUMAN

KAGE BAKER

Kage Baker's collection of Company stories, *Black Projects, White Knights: The Company Dossiers,* will be published by Golden Gryphon Press in July. Ms. Baker swears she is now *this* close to finishing her Company novella set on Mars. . . .

So there I was playing billiards with an *Australopithecus afarensis*, and he was winning.

I don't usually play with lower hominids, but I was stuck in a rehab facility and it was the winter of 1860, and there was nothing else to do but watch holoes or listen to the radio programs broadcast by my owner/employer, Dr. Zeus Incorporated. And the programs were uniformly boring; you'd think an all-powerful cabal of scientists and investors, having, after all, both the secrets of immortality and time travel, could at least come up with some original station formats. But anyway . . .

Repair and Rehabilitation Center Five was neatly hidden away in a steep cliff overlooking a stretch of Baja coastline. Out front, lots of fortunate convalescing operatives sprawled on golden sand beside a bright blue sea. Not me, though. When you're growing back skin, the medical techs don't like you sunbathing much.

Even when I looked human again, I couldn't get an exit pass. They kept delaying my release pending further testing and evaluation. It drove me crazy, but cyborgs are badly damaged so seldom that when the medical techs do get their hands on a genuine basket case, they like to keep it as long as possible for study.

Vain for me to argue that it was an event shadow and not a mysterious glitch in my programming that was to blame. I might as well have been talking to the wall. Between tests I sat interminably in the Garden Room among the bromeliads and ferns, thumbing through old copies of *Immortal Lifestyles Monthly* and trying to adjust my bathrobe so my legs didn't show.

"Oh, my! Nice gams," said somebody one morning. I lowered my magazine, preparing to fix him with the most scathing glare of contempt I could muster. What I saw astonished me.

He was about four and a half feet tall and looked something like a pint-sized Alley Oop, or maybe like a really racist caricature of an Irishman, the way they were being drawn back then. Tiny head, face prognathous in the extreme, shrewd little eyes set in wrinkles under heavy orbital ridges. The sclerae of his eyes were white, like a *Homo sapiens.* White whiskers all around his face. Barrel chest, arms down to his knees like a chimpanzee. However, he stood straight; his feet were small, narrow and neatly shod. He was impeccably dressed in the fashion of the day, too, what any elderly gentleman might be wearing at this very moment in London or San Francisco.

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I knew the Company had a few cyborgs made from Neanderthals in its ranks—I'd even worked with a couple—but they looked human compared to this guy. Besides, as I scanned him I realized that he wasn't a cyborg. He was mortal, which explained the white whiskers.

"What the hell are you?" I inquired, fairly politely under the circumstances.

"I'm the answer to your prayers," he replied. "You want to come upstairs and see my etchings?"

"No," I said.

"It's because I'm a monkey, isn't it?" he snapped, thrusting his face forward in a challenging kind of way.

"Yeah," I said.

"Well, at least you're honest about being a bigot," he said, subsiding.

"Excuse me!" I slammed my magazine down in my lap. "Anyway, you aren't a monkey. Are you? You're a member of the extinct hominid species *Australopithecus afarensis*."

"I love it when you people talk like computers," he mused. "Sexy, in a perverse kind of way. Yes, *Afarensis*, all right, one of Lucy's kindred. Possibly explaining my powerful attraction to ditzy redheads."

"That's an awful lot of big words to keep in such a teeny little skull," I said, rolling up my magazine menacingly. "So you think cyborgs are sexy, huh? Did you ever see *Alien*?"

"And you're a hot-blooded cyborg," he said, smiling. "Barely suppressed rage is sexy, too, at least I find it so. Yes, I know a lot of big words. I've been augmented. I'd have thought a superintelligent machine-human hybrid like yourself would have figured that out by now."

I was almost startled out of my anger. "A mortal being augmented? I've never heard of that being done!"

"I was an experiment," he explained. "A prototype for an operative that could be used in Deep Prehistory. No budget for the project, unfortunately, so I'm unique. Michael Robert Hanuman, by the way." He extended his hand. It had long curved fingers and a short thumb, like an ape's hand. I took it gingerly.

"Botanist Grade Six Mendoza," I said, shaking his hand.

"A cyborg name," he observed. "What was your human name, when you had one?"

"I don't remember," I told him. "Look, I haven't been calling you a monkey during this conversation. How about you stop throwing around the word *cyborg*, okay?"

"No C-word, got it," he agreed. "You're sensitive about what you are, then?"

"Aren't you?"

"No, oddly enough," said Hanuman. He sat down in the chair next to mine. "I've long since come to terms with my situation."

"Well, three cheers for you," I said. "What are you doing in rehab, anyway?"

"I live here, at Cabo Rehabo," he said. "I'm retired now and the Company gave me my choice of residences. It's warm and I like the sea air. Also—" He fished an asthma inhaler from an inner pocket and waved it at me. "No fluorocarbons in the air during this time period. One of the great advantages to living in the past. What are you doing here, if you don't mind my asking?"

"There was an accident," I said.

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"Really! You malfunctioned?"

"No, there was an error in the Temporal Concordance," I explained. "Some idiot input a date wrong and I was somewhere I shouldn't have been when a hotel blew up. Just one of those things that happen in the field."

"So you're—say! Would you be the one they brought in from Big Sur? I heard about you." He regarded my legs with renewed interest.

"That was me," I said, wishing he'd go away.

"Well, well." His gaze traveled over the rest of me. "I'd always heard you people never had accidents. You're programmed to dodge bullets and anything else that comes flying your way."

"You try dodging a building," I muttered.

"Is that why you're so angry?" he inquired, just as a repair tech stuck his head around the doorway.

"Botanist Mendoza? Please report to Room D for a lower left quadrant diagnostic."

"It's been fun," I told Michael Robert Hanuman, and made my exit gratefully. He watched me go, his small head tilted on one side.

But I saw him the next day, waiting outside the lounge. He wrinkled his nose at my flannel pajama ensemble, then looked up and said:

"We meet again! Can I buy you a drink?"

"Thanks, but I don't feel like going down to the bar dressed like this," I told him.

"There's a snack bar in the Rec Room," he said. "They serve cocktails."

I had just been informed I faced a minimum of two more months of tests, and the idea of dating a superannuated hominid seemed slightly less degrading than the rest of what I had to look forward to. "Why not?" I sighed.

The Rec Room had two pool tables and a hologame, as well as an entire wall of bound back issues of *Immortal Lifestyles Monthly.* There were tasteful Mexican-themed murals on the walls. There was a big picture window through which you could look out at the happy, well-rested operatives sunning themselves on the beach instead of having intrusive repair diagnostics done. It did serve cocktails, at least, and Hanuman brought a pair of mai tais to our card table and set them down with a flourish.

"Yours has no alcohol in it," I said suspiciously, scanning.

"Can't handle the stuff," he informed me, and rapped his skull with his knuckles. "This tiny little monkey brain, you know. You don't want me hooting and swinging from the light fixtures, do you? Or something even less polite?"

"No, thank you," I said, shuddering.

"Not that I swing from anything much, at my age," he added, and had a sip of his drink. He set it down, pushed back in his chair and considered me. "So," he said, "What's it like being immortal?"

"I don't care for it," I replied.

"No?"

"No."

"Why not? Is it the Makropolous syndrome? You know, an overpowering sense of meaninglessness with the passage of enough time? Or does it have to do with being a cyb—sorry, with feeling a certain distance from humanity due to your unique abilities?"

"Mostly it's having to be around monkeys," I said, glaring at him. "Mortal *Homo sapiens*, I mean."

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"Touché," he said, raising his drink to me. "I can't say I'm crazy about them, either."

"I'm happy when I'm alone," I continued, and tasted my drink. "I like my work. I don't like being distracted from my work."

"Human relationships are irrelevant, eh?" Hanuman said. "How lucky you've met me, then."

"You're human," I said, studying him.

"Barely," he said. "Oh, I know my place. If the Leakeys had had their way I wouldn't even get to play in the family tree! I'm just a little animal with a lot of wit and some surgical modification."

"Suit yourself," I said, and shrugged.

"So it isn't being immortal that bothers you, it's the company you have to keep?" he inquired. "Immortality itself is good?"

"I guess so," I said. "I certainly wouldn't want to have a body that decayed while I was wearing it. And I've got way too much work for one human lifespan."

"What do you do? Wait, you're a botanist. You were doing something botanical in Big Sur?"

"I was doing a genetic survey on *Abies bracteata*," I told him. "The Santa Lucia fir. It's endangered. The Company wants it."

"Ah. It has some terribly valuable commercial use?" He scratched his chin-whiskers.

"Why does the Company ever want anything?" I replied. "But if it was all that valuable, you'd think they'd let me out of here to get back to the job."

"They probably sent another botanist up there in your place," Hanuman pointed out. "And, after all, you haven't recovered yet. Have you? How are your new hands working? And the feet?"

"They're not new hands," I said irritably, wondering how he knew so much. "Just the skin. And some other stuff underneath. What do you care, anyway?"

"I'm wondering how well you'd be able to hold a billiards cue," he said. "Feel like a game?"

"Are you kidding?" I felt like laughing for the first time since I'd been there. "I'm a cyborg, remember? You're only a mortal, even if you have been augmented. I'd cream you."

"That's true," he said imperturbably, draining his glass. "In that case, what would you say to playing with a handicap? So a poor little monkey like me has a chance?"

Like an idiot, I agreed, and that was how I found out that augmented lower hominids have all the reflexes that go with the full immortality process.

"Boy, I'm glad we're not playing for money," I said, watching gloomily as he completed a ten-point bank shot and neatly sank three balls, clunk clunk clunk.

"How could we?" Hanuman inquired, hopping down from the footstool. "I've always heard the Company doesn't pay you people anything. That's one of the reasons they made you, so they'd have an inexpensive work force."

"For your information, we cost a lot," I snapped. "And I suppose you get paid a salary?"

"I did, before I retired," he told me smugly, chalking his cue. "Now I've got a nice pension."

"What'd you get paid for?" I asked. "You told me you were a prototype that never got used."

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"I said the program budget got cut," he corrected me, climbing up for his next shot. "You ought to know the Company finds a use for everything they create. I gave them thirty years of service."

"Doing what?"

He took his time answering, frowning at the table, clambering down, kicking the stool around to a better spot and climbing up to survey the angles again. "Mostly impersonating a monkey, if you must know," he said at last.

I grinned. "Dancing while an organ grinder played? Collecting change in a tin cup to augment somebody's departmental budget?"

He grimaced, but it didn't throw his shot off. Click, clunk, and another ball dropped into a corner pocket.

"No, as a matter of fact," he said. "I worked on some delicate missions. Collected sensitive information. Secrets. You wouldn't believe the things people will say in front of you when they think you're not human."

"Oh, wouldn't I?" I paced around the table, trying to distract him while he took aim again. It didn't work; another flawless bank shot, and it was clear I was never going to get a turn. He straightened up from the table, at eye level with me on the stool.

"My memoirs would make interesting reading, I can tell you. What about yours?"

I shivered.

"Boring," I said. "Unless you'd be spellbound by my attempts to produce a maize cultivar with high lysine content."

"I'd be interested in hearing how you happened to be in a hotel when it blew up," he said, surveying the table for his next shot. "Especially in the wilds of Big Sur."

"I was looking for a glass of iced tea," I said.

"Really." Smack, clunk, another ball down.

"With lemon," I said, taken by the stupidity of it in retrospect. "I was miles from the nearest humans, working my way along a ridge four thousand feet above a sheer drop into the Pacific . . . and suddenly I had this vision of a glass of iced tea, with lemon." For a moment I saw it again, with all the intensity of hallucination. "The glass all beaded in frost, and the ice cubes floating, and the lemon slice, with its white cold rind and stinging aromatic zest, and the tart pulp in the glass lending a certain juicy piquancy to the astringent tea. . . . God, I was thirsty.

"I went back to my base camp, but I guess I'd been away a while. Lichen was growing on my processing credenza. My bivvy tent was collapsed and full of leaves. Raccoons had been into my field rations and strewn little packets of stuff everywhere."

"No tea, eh?" Hanuman jumped down, circled the table and leaned up on tiptoe for a shot.

"Nope," I said, watching him sink another ball. "And then I got to thinking about other things I hadn't done in a while. Like . . . sitting at a table and eating with a fork and knife. Sleeping in a room. Having clean fingernails. All the things you take for granted when you don't live out of a base camp."

"And this was enough to make you go into a hazard zone, and endure the company of the mortal monkeys you so despise—" Hanuman set up for another shot, "the refinements of civilization?" Whack! Clunk.

"It sounds so dumb," I said wonderingly, "but that's how it was. So I broke camp, cached my stuff, picked the moss out of my hair and took a transverse ridge down to Garrapatta Landing."

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"The town that exploded?" Hanuman cleared the table and jumped down. "I win, by the way."

"The town didn't explode; it burned to the ground after the hotel exploded," I explained. "Garrapatta Landing was only about three shacks anyway. Nasty little boom town."

"And how," chuckled Hanuman. "Care for another game?"

"No, thank you." I glared at the expanse of green felt, empty but for the cue ball.

"We could play for articles of clothing."

"Not a chance in Hell." I set my cue back in its rack.

"Okay." Hanuman set his cue beside mine and waved for another round of cocktails. "I'm still curious. How did the hotel explode? I thought you Preserver drones were programmed to avoid hazardous structures."

"It wasn't hazardous when I got there," I said. "And I don't like the word *drone* either, all right? I knew the place was doomed, but because the Concordance had the date wrong on when it was set to blow, I thought I'd be safe going there when I did. What happened was, some miners going into the south range came into town late with a wagonload of blasting powder. Damned mortal morons parked it right under my window. I don't know how the explosion happened. I was asleep at the time. But it happened, and the whole hotel sort of leaned over sideways and became a mass of flaming wreckage."

"With you in it? Ouch," commented Hanuman.

"Yes. Ouch," I said, sitting down again. "Look, I'm tired of explaining this. Why don't we talk about you, instead? What did the Company do with an operative disguised as a monkey?"

"Lots of things," he said, sitting down too. "But I've never been debriefed, so I can't tell you about them."

"Okay; but can you tell me why the Company decided it needed to resurrect an Afarensis, rather than just taking a chimpanzee for augmentation?" I persisted. "If it needed a talking monkey? And how'd they do it, anyway?"

Hanuman looked thoughtful. It was amazing how quickly I'd adjusted to seeing human expressions in his wizened face, human intelligence in his eyes. They fixed on me now, as he nodded.

"I can tell you that," he said. The waiter brought our drinks, and Hanuman leaned back in his chair and said:

"You know the Company has a lot of wealthy clients in the twenty-fourth century. Dr. Zeus takes certain special orders from them, fetching certain special items out of the dead past. Makes a nice profit off the trade, too. You Preservers think all the stuff you collect goes for science, or to museums; not by a long shot, honey. Most of it goes into private collections."

"I'd heard that," I said. Not often, but it was one of the rumors continually circulating among operatives. "So what?"

"So somebody placed an order once for Primeval Man," Hanuman went on. "And the Company needed to know what, exactly, was meant by primeval. Was he talking cavemen? Little skinny monkey-faced fellows scavenging hyena kills? Bigfoot? What? But the plutocrat placing the order had trouble being specific. He wanted something that walked upright, but he wanted . . . an animal. An animal perhaps a little smarter than a performing dog."

"This is so illegal," I said.

"Isn't it? But the client could afford to make it worth Dr. Zeus's while. The

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only trouble was nailing down the definition of the merchandise. Finally the Company sent him an image of a reconstructed Afarensis. Was that primeval enough? Yes! That was what he'd had in mind. Fifteen breeding pairs, if you please."

"This is SO illegal," I said. He smiled at me, not the gum-baring grin of a chimpanzee but tight-lipped, pained.

"Big money," was all he said.

"I guess so! What was he going to do with them once he had them?"

"Play God, one assumes." Hanuman shrugged. "Or perhaps Tarzan. In any case, I suppose you've heard that the Company has a genetic bank on ice somewhere, with reproductive tissue and DNA from every race the planet's ever produced? Neanderthal, Cro-Magnon, Crewkerne, the whole works?"

"That's what I've heard. They have Afarensis in there too?"

Hanuman nodded. He did it differently from a *Homo sapiens sapiens*, I guess because of the way his skull was positioned on his vertebrae. It's difficult to describe, an odd abrupt bobbing motion of his head.

"The Company took what they had and filled the order. Produced fifteen female embryos, sixteen males. I was No. 16."

"Why'd they make one extra?" I inquired.

"Because they could," said Hanuman, a little wearily. "The client was throwing ridiculous amounts of money at them, after all; why not skim a bit for R&D on a new project? The idea persons involved thought it would be great to find out whether sentience could be enhanced in a lower hominid.

"So the client got his thirty assorted Afarensis babies and I went off to a private lab for augmentation and years of training."

"But not the immortality process," I said.

"Prototypes aren't made immortal," said Hanuman. "I can see the reasoning: why risk setting a mistake in stone? If the project proposal had been approved they'd have cranked out any number of immortal monkeys, I don't doubt, but as it was . . . the Company decided it didn't need a specialized operative for Prehistory. Apparently they were already having problems integrating their Neanderthal operatives and such into human society, and the last thing they wanted was another set of funny-looking immortals. So . . ."

"So there was just you," I said.

"Just me," he agreed. "Can you wonder I'm sex-starved?"

"I'd rather not wonder, okay?" I said. "But that's pretty awful, I have to admit. Were you raised in a cage?"

"Good lord, no!" Hanuman looked indignant. "Were you?"

"No, I was raised at a Company base school," I said.

"Then I had a more human upbringing than you had," he told me. "I had adoptive parents. Dr. Fabry, the head of the project, took me home to his wife. She was a Primate Liaison and delighted to get me. They were a very loving couple. I had quite a pleasant childhood."

"You're kidding. How'd they get away with it? Isn't it illegal to keep pets up at that end of time?"

"I wasn't a pet," he said stiffly. "I was raised as their child. They told everyone I was microcephalic."

"And the mortals believed that?"

"Oh, yes. By the twenty-fourth century, there hadn't been a microcephalic born in generations, and people were a little hazy about what the word meant. Everyone I met was kind and sympathetic as a consequence."

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"The *mortals* were?" I couldn't believe this.

"The twenty-fourth century has its faults," Hanuman told me, "but people from that time can't bear to be perceived as intolerant."

"But they are," I protested. "I've met some, and they are."

"Ah, but you're a—excuse me—a cyborg, you see?" Hanuman reached over and patted my hand. "Better than mortals, so of course they're not going to waste their sympathy on you! But I had every advantage. Why, I myself thought I was a challenged human being until I hit puberty, when I was five."

"You didn't know you were an Afarensis?"

"I thought all the cranial operations were to compensate for my condition," he said. "And my parents were too kind-hearted to tell the truth until I became interested in sex, at which time they sat me down and explained that it wasn't really an option for me."

"That's kind-hearted, all right," I said.

"Mm. I was crushed, of course. Went through denial. Mumums and Daddums were so dreadfully sorry because they really did love me, you see, and so they hastened to provide me with all sorts of self-image-improving material. I was told I could be anything I set out to be! Except, of course, a human being, but that didn't mean I couldn't enjoy a full life. Et cetera."

"What did you do?" I asked.

"Raged. Rebelled. Gave poor kind Dr. and Mrs. Fabry no end of grief. Decided at last to embrace my hominid heritage and turn my back on *Homo sapiens*." Hanuman picked the fruit spear out of his mai tai and considered it critically. "Demanded to meet my biological parents." He bit off a chunk of pineapple.

"But you came out of a DNA bank," I said.

"Yes, they pointed that out too. The best that could be managed was an interview with the host mother who had given birth to me." Hanuman leaned forward, still munching pineapple, and waggled his eyebrows. "And, talk about illegal! It turned out that the lady in question lived at Goodall Free Township."

I did a fast access and was shocked. "You mean the chimpanzee commune? That place set aside for the Signers after the split happens in the Beast Liberation Party? But I thought that'll be off-limits to humans."

Hanuman lifted his cocktail and drained it, gracefully extending one long pinky as he drank. "Of course it is," he said, setting the glass down. "Tell me, how long have you worked for the Company now? And you still think laws matter to Dr. Zeus?"

I was speechless.

"The Company had sent in a fast-talking—or should I say fast-signing?—person to negotiate with the females at Goodall," Hanuman said. "One of you people, I believe. A Facilitator, isn't that what the political ones are called? He offered a contract for surrogate maternity to thirty-one chimpanzees. They were implanted with the embryos, they carried them to term and delivered as per contract. Handsomely paid off, too, though presumably not in bananas alone."

Something beeped and Hanuman started slightly. "Oops! Excuse me a moment." He fished a pillbox out of his vest pocket and shook a few capsules into his palm. When he looked around for something to take them with, I pushed my glass forward.

"No, thank you," he said delicately, getting up and filling a disposable cup

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at the water cooler. I narrowed my eyes. Certain mortals from the twenty-fourth century are reluctant to touch utensils or other personal items a cyborg has used. Probably he just didn't want to take a sip of something with rum in it, but I was hair-trigger sensitive to anti-cyborg bigotry.

"You know what? I've just remembered I have an appointment," I said, getting to my feet and stalking out of the room. "Great story, but we'll have to do this some other time, okay? Bye now."

"Aw," he said sadly, looking after me as I stormed away.

I didn't get the rest of the story until a week later.

The people responsible for my new lungs cautiously admitted that sea air might be good for them, so I was permitted to go outside if I wore a long coat, wide-brimmed hat and a face mask that made me look like Trona the Robot Woman. I reclined in a deck chair on the beach and gazed out at the sea for hours on end, telling myself I didn't give a damn that other immortals were staring at me. The dark lenses of the mask made the sea a deep violet blue, gave everything an eerie cast like an old day-for-night shot, and I could watch the waves rolling in and pretend I was anywhere but here, anyone but me.

One morning I heard a clatter as another deck chair was set up beside mine.

"There you are," said someone cheerfully, and turning my head I saw Hanuman settling into the chair. He was nicely dressed as usual, in a white linen suit today, with a Panama hat that must have been specially made for his little coconut head. He drew a pair of sunglasses from an inner pocket and slipped them on. "Bright, isn't it?"

I just turned my robot face back to regard the sea, hoping its expressionlessness would intimidate him into silence.

"Strange mask," he observed. "Not the most attractive design they could have chosen. Much more angular than, say, the police in *THX 1138*. Nowhere near as human as Robot Maria in *Metropolis*. Even the Tin Man in—"

"I think they were going for Art Deco," I said. "Buck Rogers Revival."

"Yes!" He leaned forward to study the mask again. "Or *Flesh Gordon*."

"Flash Gordon."

He chuckled wickedly. "I meant what I said. Did you ever see it? Surprisingly good for a porn film. Great special effects."

I was silent again, wishing I really was a robot, one perhaps with the ability to extend an arm and fire missiles at unwelcome companions.

"I was telling you the story of my life," he said.

"So you were."

"Still interested?"

"Go right ahead."

He folded his hands on his stomach and began again.

"Goodall Free Township is a grand name, but the reality's sort of squalid. After the Signer scandal, the Beast Liberation Party gave the signing chimpanzees a thousand acres of tropical woodland for their very own, hoping they'd just disappear into the forest and return to whatever the Beast equivalent of Eden is. I had decided to go there to live, and celebrate my true Afarensis nature.

"All the way there in the car, Mrs. Fabry told me about the wonderful par-

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adise I was going to be privileged to see, where beasts lived in dignity and self-sufficiency, and how this was only one of the modern examples of mankind atoning for its crimes against the natural world.

"So I was expecting rainbows and unicorns and waterfalls, you see, quite illogically, but I was, and when we pulled up to the big electrified fence with barbed wire at the top it was jarring, to say the least. Beyond the fence was a thicket of cane solid as a wall, nothing visible behind it, growing to left and right along the fence as far as the eye could see.

"Even Mrs. Fabry looked stunned. A ranger emerged from a little shack by the locked gate and saluted snappily, but she demanded to know why the barbed wire was there. He told her it was to keep poachers out, which she accepted at once. Personally I think—well, you decide, once you've heard.

"The ranger stared at me, but didn't question. He just stepped inside and got a jotpad, which he handed to Mrs. Fabry with the explanation that she needed to state for the record that she was going in of her own free will, and released the Goodall Free Township Committee from any responsibility in the event of unpleasantness. As she was listening to the plaquette and recording her statement, I began to remove my clothes.

"At this, the ranger looked concerned and signed to me, *What are you doing?*

"'What's it look like I'm doing?' I said indignantly. 'Besides talking, which I can do, thank you very much.' And I explained that I was going to meet my brothers and sisters in Nature and wanted no effete *Homo sapiens* garments to set me apart. He just shook his head and told me I might want to reconsider.

"Mrs. Fabry, who knew more about chimpanzees than I did, kept her clothing on. Even so, the ranger advised her she'd do well to take a gift for the inhabitants. She asked him if he had any fruit and he went inside his shack, to emerge a moment later with a bottle of Biodyne.

"'Take this,' he said. 'They got all the fruit they need.'

"Mrs. Fabry took it reluctantly. Giving renaturalized primates any kind of medical assistance was strictly forbidden, as I was later to find out, but then so were visitors to this particular paradise. Anyway, the ranger dropped the perimeter security and let us in, pointing out a tiny gap between the cane stalks where we might squeeze through; then he locked up after us and I heard the faint *hummzap* of the fences going back on. As we picked our way through the jungle (where I very much regretted I hadn't worn my shoes), Mrs. Fabry said,

"'Now, Michael dear, when we meet the chimpanzees, it might be a good idea if you got down in a crouch. They'll be more comfortable.'

"'Won't they understand what I am?' I demanded. 'The whole point of this is that I'm returning to my true state.'

"'Well—' she said, and then we were through the jungle and out in a clearing, and there they were.

"I have to admit it was sort of breathtaking, mostly because of the scenery. Forested mountains rose straight into clouds, below which four chimpanzees were doing something in a meadow. Other than the noise my fellow primates were making, there was a dull sleepy silence over everything. The chimpanzees turned to look at us, and Mrs. Fabry dropped at once into a crouch. I didn't, which was why I got a glimpse of what they'd been doing before they noticed we were there. They'd been beating a scrap of

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sheet metal into a curve around the tip of a stick, taking turns hammering it with river cobbles. It looked rather like a spear.

"The minute they spotted us, however, they closed ranks and one of them tossed the stick behind the big rock they'd been using for an anvil. They advanced on us cautiously and I saw they were all males. They'd been focusing on Mrs. Fabry, I suppose because she was bigger than I was, only glancing at me, but one by one they did doubletakes and stopped, staring.

"The biggest male, who had a lot of silver on his muzzle, signed *What that thing?* to Mrs. Fabry, indicating me with a flick of his hand.

"She winced for me, and signed back: *My baby sort-of chimpanzee.*

"The big male gave me an incredulous look. The younger males began to—I think it's called displaying, where they get erections and start behaving badly? Acting in a vaguely threatening manner. Rushing at me and pulling up short, then retreating. I did a bit of retreating myself, not quite cowering behind Mrs. Fabry, and seeing their bared fangs I wished very much I'd kept my pants on at least.

"The old male ignored them, staring earnestly into Mrs. Fabry's face. *Not chimpanzee,* he signed. *Lie lie. Wrong feet. What that thing?*

"She signed *Friend* and offered the bottle of Biodyne hopefully. He regarded it a moment, sighed, and put out his long hand and took it from her. He loped off to the big rock, dropped it, picked up something else and loped back.

"Holding the object up before her eyes a moment—it was a six-centimeter Phillips head screw—he signed *You come again bring this. Many this. Need this. Yes?*

"Mrs. Fabry hesitated, and I yelped, 'Tell him yes, Mom!' because one of the other youths had made another rush and snapped his fangs perilously close to my ass. The old male started up and snarled at the others, baring his own fangs. *Sit stupid dirt,* he signed. *I talk!* Whereupon the juveniles snorted but turned away, and went to groom each other beside the big rock, but they watched me balefully.

"That not chimpanzee, the old male continued, indicating me. *Sound like you. Lie. Pink pink pink. Why here?*

"Mrs. Fabry signed, *Come visit chimpanzee Gamma 18.* Which, I discovered, was my host-mother's name."

"I thought they all had names like Lucy and Washoe," I said.

"Not after Beast Liberation. It was decided human names would be insulting and patronizing," Hanuman explained. "So they went with letter-number combinations instead. As soon as the old male saw my mother's name, an expression of sudden comprehension crossed his face. Very human-looking. In some excitement he signed, *Doctor babies! Old time. Babies take away. Baby big now? This thing?*

"I was getting a little tired of this, so I signed *I not thing. I good ape.*

"He just laughed at me—oh, yes, they laugh—and signed, *You good thing.* He looked back at Mrs. Fabry and signed, *Come visit Gamma 18.*

"By this time I was ready to turn around and go home, but Mrs. Fabry wasn't going to waste this chance to socialize with her favorite study subjects. She grabbed my hand and we set off after our host. He led us away, detouring just long enough to grab the Biodyne from the juveniles, who had opened it and were applying it to their cuts and sores. They sulked after us, making rude noises, until the old male (Tau 47, as he introduced himself) turned back and barked at them.

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"We followed a trail over a shoulder of mountain and, what a surprise! They'd built themselves a township all right: eleven huts made of corrugated tin and aluminum panels from aircraft wreckage. The huts were arranged in a rough circle, with a fire-pit in the center. Yes indeed, they even had fire. Mrs. Fabry caught her breath and Tau 47 glanced up at her warily. In a defensive kind of way he signed, *Fire good. Chimpanzee careful careful.*

"'I thought this was supposed to be pristine primeval wilderness,' I said under my breath.

"They must have found a crash site the Goodall Free Township Committee was unaware of,' replied Mrs. Fabry.

"There were several chimpanzees sitting in the center clearing, mostly females with young. They all looked up and stared as we came down the hillside. Some of the smaller juveniles screamed and ran, or threw things, but most of them watched us intently.

"One or two females signed *Look look.* Tau 47 led us right up to a female with an infant at her breast and signed, *Remember doctor babies gone. Big baby now. Visit.* He turned and indicated us. Mrs. Fabry crouched at once and I hastily followed suit. I couldn't take my eyes off the female. *This Gamma 18,* he signed to us.

"Remarkable how different their faces are, one from another, when you see them all in a group. My host-mother had a more pronounced muzzle, and the hair on her head seemed longer than elsewhere, like a woman's. Taken all in all the effect was a little like that famous parody of the Mona Lisa. But, you understand, by this time she no longer seemed like an animal to me. She looked like the Madonna of the Forest.

"I signed *Mother* and reached out to her, but she drew back, glancing at me sidelong. Her baby ignored us, snuffling at her long flat breast. After a moment she reached out a tentative hand and knuckled my foot.

"*Funny foot,* she signed. *Remember. Doctor pull out, take gone. See funny foot. You my baby old now?*

"I signed back *I your baby, good ape now.* Mrs. Fabry had tears in her eyes. Gamma 18 signed *Good good* in an uncertain way.

"Then she turned to Mrs. Fabry and signed *Comb?*

"We thought she was asking Mrs. Fabry to groom her, and Mrs. Fabry was breathless at the honor and acceptance that implied, but when she hitched herself closer Gamma 18 backed off and repeated *Comb?* And she carefully and unmistakably mimed running a comb through her hair, as opposed to a flea-picking gesture.

"Mrs. Fabry said out loud, 'Oh, you mean you want one!'

"She happened to be wearing one of those hikers' pouches at her waist, and she unzipped it and dug around for her comb. She handed it over to Gamma 18, and was instantly surrounded by other females who all wanted things too, and I must say asked for them very politely.

"Mrs. Fabry, looking radiantly happy, passed out tissues and breath mints and offered little squirts of cologne from a vial she had in there. Gamma 18 moved in closer, and soon they were all sitting around, Mrs. Fabry included, signing to one another and blowing their noses, or taking turns passing the comb through their hair.

"I sat to one side, dumbfounded. Tau 47, who had been watching me, caught my eye and signed: *You thing come.* He paced away a little distance, looking over his shoulder at me. I got up and followed, feeling sullen and miserable. I had to stand to follow him, because I've never been able to walk

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on my knuckles very well, and of course my rising to my full height set off another round of screams and abuse from the juveniles in the group. One very little male galloped close, pulled up and signed *Ugly ugly pink pink.*

"Angrily I signed back *Dirty stupid.* Tau 47 stood up and snarled at the little male, who drew back at once. But he sat there watching us, and to my annoyance began to sign slyly: *Pretty pretty pink pink.* The other juveniles took it up too, laughing to themselves. I was nearly in tears.

"Tau 47 huffed and signed, *Stupid babies. You smart thing?*

"*Not thing,* I insisted. *Good ape.* Tau 47 rolled his eyes as if to say Whatever and then signed: *You see how lock work?*

"I signed confusion at this. He grunted, sat down and with great care signed slowly: *You go in gate. Here. You see how gate lock work? How open?*

"I signed back, *Not know. Sorry. You want leave here?*

"*I leave leave,* he signed. *I go back people houses.*

"I was astonished. *Why?* I signed. *This good here. I come here live.* It was his turn to look astonished.

"*Come here live,* he repeated, as though he couldn't believe what he'd seen. *Why why why? Cold here. Wet here. Bad food. Bugs. Fight bad chimpanzees.*

"I didn't know what he meant by this, because the Goodall Free Township Committee had selected wilderness that was not only virgin, it was empty of any other chimpanzees. So I signed *Who bad chimpanzees?*

"Tau 47 looked threateningly up at the mountain and signed, *Bad bad Iota 34. Bad chimpanzee, friends. Fight. Eat babies. Steal.* By which he meant, I suppose, that some family group had split off from the original settlement and taken up residence in a distant corner of the preserve, and now there were territorial conflicts. It didn't surprise me; chimpanzees in the wild had used to do that, and it might be lamentable but it was, after all, Natural. So I signed, *Iota 34 steal food?*

"He considered me a moment and then signed, *Come hide quiet.* So signing, he knuckle-loped away a few paces and looked back over his shoulder at me. I followed uneasily, and he led me through bushes and along a jungle trail, taking us deeper into the hills.

"Within a couple of minutes we were out of sight of the village and I began to hear warning calls from the brush around us, and glimpse here and there a chimpanzee peering down from high branches. Finally a big male dropped into the path before us, followed by two other males and a big female without young. They bared their teeth at me. Tau 47 signed *Good chimpanzee-thing no bite.* He put an arm around me and made a cursory grooming motion.

"They blinked and looked away, then vanished back into the leaf cover as suddenly as they had appeared. *Chimpanzees watch,* explained Tau 47. I wondered what they were watching, but he led me forward and as we came out on the edge of a ravine it became clear why they guarded that patch of forest.

"There, filling the ravine and spilling down it in a river of squalor, was a trash landfill. It was overgrown with creepers, overhung with trees, which was perhaps why the Goodall Free Township Committee hadn't known it was there. Two chimpanzees worked the heap immediately below us, poking through it with sticks and now and then pulling out a useful scrap of salvage, old wiring or broken furniture."

"I guess it wasn't quite virgin wilderness," I said.

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"I guess so. Something the survey parties for the Goodall Free Township Committee missed, evidently, or were bribed to overlook. I just stood there gaping at it. The two chimpanzees below looked up at me and froze; after watching Tau 47 and me a moment they seemed to accept my presence and got back to their work. Tau 47 signed to me, *This secret. Good things here. Make house. Make knife. Live good.* He looked up once again at the mountain and bared his teeth. *Iota 34 want secret. Dirty bad bad.*

"*Iota 34 make house too?* I signed.

"*No no,* signed Tau 47. *Iota 34 make,* and he paused and made a motion of gripping a shaft of something with both hands, stabbing with it. Then he signed *stick knife hunt hurt.*

"I saw the whole problem in a flash: it was much more than a Tree of Knowledge in Eden. It was like the twentieth-century dilemma over atomic power. Here these poor creatures had this unexpected gift, from which they could derive all sorts of comforts for their wretched existence; but it had to be prevented from falling into the enemy's hands at all costs, or it could be used against them."

"Though they were obviously using it to make weapons themselves," I said.

"Naturally." Hanuman tilted his hat forward to shade his face. "They were chimpanzees. It was in their nature. They're decent enough people but they're not peace-loving, you know, any more than *Homo sapiens* is. What a Cold War scenario, eh? Being signers, they had the ability to communicate ideas; they had seen enough of what *Homo sapiens* has in the way of enriched environments to want to make one for themselves, and now they had the potential to do so.

"But as long as most of their tribe's resources had to be expended on guarding this trashpile, how much time could they afford to do anything else?"

"It's always something," I muttered.

"So there I was, standing on this height, and suddenly it flashed before my eyes: what if I became one of these people? What if I led them, used my augmented intelligence to give them the edge in their arms race? I might become a lower-hominid Napoleon! We'd take on the dastardly Iota 34 and force his tribe to become peaceful citizens of a new primate civilization! Made of recycled trash, admittedly, but unlike anything that had ever existed.

"Or perhaps—dare I even think it—force the *Homo sapiens* world to face the monstrous injustice of what had been done to these poor creatures by letting them get an earful of the Black Monolith, so to speak, and then removing any way for them to fulfill their hitherto unguessed-at potential by insisting they live like primitives?

"Good heavens, I thought to myself, it might even be a plot to keep us from moving into Man's neighborhood! Having transmitted the divine spark of reason to us, what if Man had now regretted and sought to keep us mere animals? How dare he deny our humanity? Why, I might lead a crusade to bring apes everywhere to a higher level of being. Shades of Roddy McDowall in a monkey mask!"

"But you saw the futility of such an exercise in ego?" I inquired.

"Actually, it was the cold realization that I'd probably be remembered as Pretty Pink General," said Hanuman. "Plus the fact that just then I felt something bite me, and looked down at myself and realized I was covered in fleas.

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"*Good secret,* I signed to Tau 47. *I quiet quiet.* He looked out over it all, sighed and signed: *You go. No stay here. Go houses.*

"I signed, *You miss houses?*

"*Miss houses,* he signed back. *Want good food. Good blanket good. Miss pictures. Miss music. Miss game. Good good all. I sad. Cry like baby.*

"*Sorry,* I signed. He just huffed and looked out over the landfill.

"We went back to the village.

"The ladies were all sitting around grooming one another, Mrs. Fabry included. She looked up as we approached and said, 'Michael, dear, I've been trying to explain that you want to stay with them, but—'

"I told her it was all right, that I'd changed my mind. Before she could explain this, though, Gamma 18 broke away from the group and approached me. Looking at me seriously, she signed *You no stay here.*

"*No stay,* I agreed bitterly. She came closer on all fours—her baby was still hanging under her—and put her hand on my shoulder, quite gently. Then she signed: *You no chimpanzee. You no man. You other thing. Sad thing here. You go houses, be happy thing.*

"By which motherly advice I guess she meant that the bananas grow at the top of the tree, not at the roots, and since I didn't belong at either end (evolutionarily speaking) I might as well climb up and eat rather than slide back down and starve. You get what life deals you, and you'd better make the best of it.

"I went back home with Mrs. Fabry. The dear woman didn't mind all the flea bites she'd incurred on my behalf in the least; I do believe she got more out of the whole ape-bonding experience than I had. I settled down to try to be a good adoptive son to her and Dr. Fabry. Tried not to think of my chimp-mother's plight, though I lived by her wise words."

"And that was it? You came all that way, and that was all she had to tell you?" I demanded.

"Well, she was a chimpanzee, after all, not a vocational guidance counselor." Hanuman looked at me over his sunglasses. "And if you think about it, it's good advice. Certainly I've let it guide me through a long and occasionally trying life. You might consider doing the same."

"I fail to see how our problems are in any way similar," I snapped.

"Aren't they?" Hanuman regarded me. "When I discovered I was neither an ape nor a man, I tried to be an ape. It was a waste of my time. All the advantage is on the human side.

"You—during a similar adolescent crisis, I'd bet bananas to coconuts—discovered you are neither a machine nor a woman. So you've tried to be a machine."

"Go to hell, you little hominid bastard!"

"No, no, hear me out: your work habits, your preference for physical and emotional isolation, are part of your attempts to ignore your human heritage. But your heart is human so you can't do it, any more than I could, and the stress of the conflict drove you to seek out human companionship.

"Or possibly, by sleeping in a place you knew to be hazardous, you were indulging in a covert suicide attempt. Was it really tea you were thirsty for, Mendoza?"

"I can't believe this!" I leaped out of my chair and tore off my mask, glaring at him. "You're one of the Company's psychiatrists! Aren't you?"

"Let's just say I'm not completely retired. You must have suspected all along," he added calmly, "clever cyborg that you are."

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"How many times do I have to tell you people, it was an accident?" I shouted, and all up and down the beach, heads turned and other operatives stared at us.

"But you're programmed not to have accidents," he said. "And the Company would like to know how it happened, and whether it's likely to happen again. Is it just your neurosis that leads you to take unnecessary risks, or is it a design flaw they need to know about? They have a lot of money invested in you cyborgs, you know. Who were you hoping to find in the fire, Mendoza?"

"Oh, now we get to the truth," I said, sitting down again. "Now we drop the crap about how I'm really human. I'm an expensive *machine* and the Company's doing a diagnostic to see whether I'm still malfunctioning?"

Hanuman shrugged, holding my gaze with his own. "You look at me and all you see is a monkey, no matter how cleverly I speak. They look at you and all they see is a machine they can't seem to repair. It's insulting. Unfair. Yet the hard truth is, neither one of us belongs in the natural world. I know it hurts; who'd know better than I? But it won't change. I've accepted that. Can you?"

I put my mask back on and, without another word to him, strode away up the beach.

I managed to avoid speaking to him the rest of the time I was there, and he didn't try to speak to me, though he watched me somberly from a distance and tipped his hat once or twice when our paths crossed. Maybe he'd found out all the Company wanted him to find out, or maybe he knew there was no way on earth I was ever going to let him any further into my head than he'd gotten already.

The Company discharged me for active service at last; they had to. They'd repaired me good as new, right? So I took off for the coastal mountains and made a new base camp up in the big trees, and got right back to work happily collecting genetic variants of *Abies bracteata*. I had all I wanted in the wilderness.

Stupid chimpanzees, wanting to go back to the cities of humanity! Maybe they needed an enriched environment, but not me. I'd stripped away such irrelevant nonsense from my life, hadn't I?

I had the looming mountains to myself, and the vast empty sea and the immensity of cold white stars at night and, thank God, the silence of my own heart. It never makes a sound of complaint. It's a perfectly functioning machine. ❍

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We have told ourselves for a long time
That the Moon never turns its face from us
But I have realized that the side we see,
Pocked less by age, less open to the stars,
Is the back side.

Our cold Moon has settled in
Some permanent, comfortable snit,
From which, obdurate, obstinate,
It refuses to relent.

I, with my one person's worth of gravitation,
Have been thoughtlessly enabling this behavior;
And now regret it. And so, each day, for as long
As I am able, I point a tiny laser at our
Sulking satellite's leading edge
Doing my little bit
To put an end to it.

—Timons Esaias

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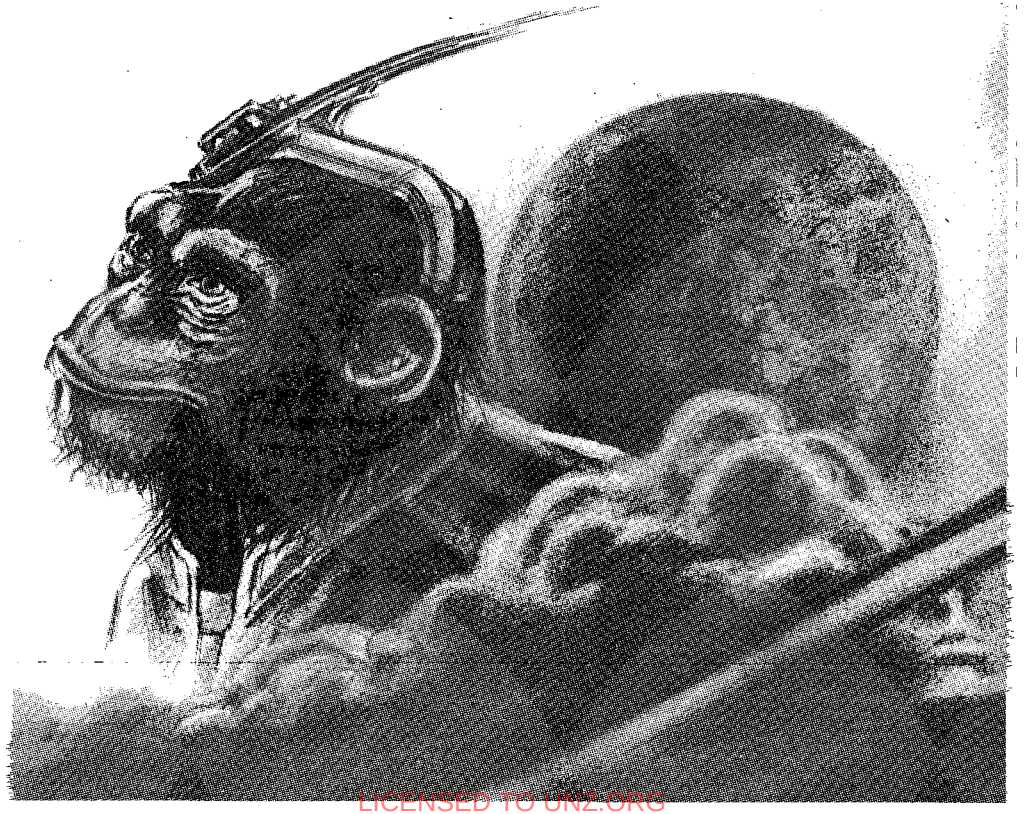
RING RATS

R. Garcia y Robertson

Illustration by John Stevens

R. Garcia y Robertson's latest novel, *Knight Errant* (the first in a fantasy trilogy set during the War of the Roses), was recently published in hardcover by Forge. The reprint edition of another of his books, *American Woman*, is available in paperback. In Mr. Garcia's hair-raising new tale of murder and kidnapping, a desperate young girl and a gifted pilot must make a frantic attempt to outwit a brutal space pirate.



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Captain Kid

MORNING WATCH 04:37:12 Graveyard orbit circum Typhon

"Great uncle Lyle has a ship like this." Kay stepped out of the forward lock into a narrow tube lined with loose power cables and scraps of shiny insulation, showing that the ship was a work in progress. She wore an adult vacuum suit several sizes too big, cinched tight at chest, waist, and crotch, to keep her from tripping over it. Luckily, spin gravity was a relaxed .5 g. Seeing pressure was up, she undogged her helmet and lifted it off, shaking out straight blonde hair that fell to just past her small delicate jaw. Squared ends and razor bangs were edged in blue—matching her eyes. Filling her lungs with ship air, Kay found it musty, smelling of Chimps and solvent, way better than the stale stuff in her oversized suit.

("Can you pilot her?") inquired a disembodied voice coming from the comlink clipped to her ear. Speed-of-light lag made the voice seem to hesitate, meaning that the signal came from a ways off. Hundreds of thousands of klicks at least.

"Sure, no sweat." At thirteen standard years, Kay already knew better than to show an angstrom of doubt, not when money hung on the deal. "Just let me look her over." Following the snaking power cables to the control deck, she brushed foam packing pretzels off the spanking new command couch, then climbed aboard, her small frame sinking deep into the crash webbing. "Centaurii Comet, right?"

("Serial number CC-8879442,") replied the voice in her ear.

If you say so. Finding the couch lead, she lifted the blue-fringed hair at the back of her neck and jacked in, running a swift systems-check. All green. Figures. Hardwired systems sit for centuries, waiting to spring to life—while the human parts wore down, or went to pieces. Lying back, she summoned up a virtual tour of the ship, a spherical pressure cabin married to a cylindrical antimatter drive, originally an insystem robo-freighter, presently being refitted by a SuperChimp crew, apparently for smuggling. She that noted the redone command cabin was a bit short, creating space behind the aft bulkhead. "So you need someone to make a shakedown run to Tartarus?"

("Yes, a pilot to check the work of the SuperChimps on the refit, then take the ship and SuperChimps to Tartarus.")

"Why take the Chimps?" She did not intend to lift ship until the refit was done—being desperate, but not clinically crazy. There were smarter ways of killing herself than taking a suspect ship deep into Typhon's gravity well, headed for Tartarus, an airless volcanic moon, torn by tidal forces and drenched in hard radiation from Typhon's Van Allen belts.

("These SuperChimps are needed on Tartarus.")

Poor Chimps. Poor *her*—she was headed for Tartarus too. Money can make you do ghastly things. Kay asked, "When will I be paid?"

("Payment in your name is waiting to be claimed on Tartarus, you need only go there.")

"Sounds great!" Actually, it sounded like a blazing lot of bullshit, but it did

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"Absolutely!" Kay did not let a scintilla of doubt into her voice, grinning idiotically, sounding as perky as she could while lying at the controls of a derelict robo-freighter, a cosmic packing crate discarded ages before she was born—being told that she had to see the ship to Tartarus, for reasons so dangerous she dared not ask. "No trouble at all," she assured the invisible voice, checking the time in her head. It was 04:55:07. "I'll be back by the first dogwatch."

Leaping up before the voice changed its mind, she waded through packing scraps to the airlock, clamping on her helmet, and returning to the stale stuffy air from Mom's worn recycler. Cycling through the lock, she emerged from the despin system onto an open docking port on the ship's main axis. Telling her boots to grip, she walked out to stand on the empty docking ring, surrounded by vacuum and starlight—all dressed up with nowhere to go. She just wanted to be out of the ship, before something screwed the deal. Silly, since the comlink was still in her ear, and the disembodied voice could call it off anytime, or demand she do it blindfolded. To which Kay would have to happily say, "Yes." But she herself would not prolong the process one nanosecond. What was there to negotiate? She was being offered more credit than she had ever seen to pilot a ship—something she had known how to do since she was two. Kay had to accept, resolutely refusing to consider the risks, consequences, or glaringly obvious dangers. It was not as if she had a choice.

Putting the comlink to use, she hit the net, scanning frequencies, scamming a ride, talking to anyone who would talk to her, hoping to get back to The Hub as painlessly as possible. Telling all who would listen that she was "deep in the Graveyard, needing a ride Home."

On the far side of her visor was one of the most awesome sights in Human Space, the Orion nebula from close up, great fingers of glowing gas tipped with stars in the making, seen through the young bright lights of Dawn Cluster, hundreds of suns crowded into a few score light-years, blazing at her out of the blackness. Starry nebula stretched from straight overhead almost to her feet, where it was abruptly cut off by the curved tawny-brown cloud tops of a ringed gas giant half a million klicks "below" her. This was Typhon, the huge Jovian world that everything hereabouts orbited, circled by immense silver rings taking up half the sky. By local convention, going deeper into Typhon's steep gravity well was "down," and everywhere else in the universe was "up." Somewhere "down," there, between her and the rings, spun Tartarus, Typhon's innermost moon, a sulfuric volcanic slag heap, freezing cold and lava hot, bathed in Typhon's Van Allen radiation—that for some unknown reason urgently needed this ship and its Chimp crew. So urgently that they were willing to have *her* pilot it, a sign of practically suicidal desperation on someone's part, or monumental stupidity. But who was Kay to question her luck?

Smiling into her helmet cam, she pictured the people she talked to—Mom's transceiver chip in the back of her skull let her see images projected directly into her optical lobes, so she could read faces. Someone had to burn mass and come out of their way to pick her up. Someone human. Chimps lacked the authority, and few cyborgs would give her the time of day—narrowing her choices alarmingly. CC-8879442 orbited deep in the Graveyard, a parking orbit for cargoless ships and airless hulks at the edge of Typhon's Van Allen belts. Scavengers, salvage crews, refit parties, ring-runners, and antique dealers all visited the Graveyard—if only sporadically. So that's

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who she appealed to, pleading patiently while the worn recycler on Mom's old v-suit labored in the background.

Finally, she found a guy who felt right, who had not only a ship but a job, a fat, friendly tug operator doing orbital maintenance, promising to fit her into his schedule as long as she paid for her mass. Since she massed next to nothing, it was a deal—though she still wished he were a woman.

Settling in to wait, Kay stood weightless in her mother's oversized v-suit, listening to the laboring recycler. Being on the axis of rotation made the whole ship seem to spin around her, but left her stable relative to the stars, pointed smack at Betelgeuse. But Typhon was the big attraction, blazing in half-phase with its giant rings, so huge that she couldn't see it all. She searched for Tartarus, but the tiny moon was too close in, blotted out by the bright rings. She was going to really be a ring rat now, close enough to file her nails on them.

It was 05:37:42. Waiting began to wear. Space travel had way too much dead time, even for little hops like here to The Hub. Nor did she like how Mom's recycler sounded—if it gave out, she had just a small reserve before the suit died.

Retreating to the net, she scanned for free feelie casts, finding a 3V ad for a resort and retirement aerostat in Typhon's upper atmosphere. Floating like a huge transparent bubble several klicks across, the aerostat hung from a giant balloon of heated hydrogen, suspended amid brown clouds of ammonium hydrosulfide hundreds of klicks above a grey-white sea of water ice clouds. Within the aerostat's protective bubble was a free-form world, where beautiful people flitted between aerial hamlets on gossamer wings and skycycles. Fairyland to a child raised in cubicles and corridors, breathtakingly wonderful no matter how often she felt it. She blended with the ad, riding a skycycle with wind streaming in a cool rush of feeling over her face, weirdly refreshing. She pedaled along, dodging skyships, pleasure barges, and colorful homes floating like open flowers, complete with hanging gardens and rooftop landing pads. Aerostat technology had been used by the first settlers to terraform Oceania and the inner worlds, then introduced to Typhon to provide living space in the outer system. Ice-mining and terraforming left colonies scattered about Typhon living off local resources and gravity advantage—not everyone could pick up and move to the wonderful new inner worlds. Kay was having her troubles just getting to The Hub.

Shooting through waterfall rainbows, she skimmed the surface of the warm ballast lake at the bottom of the bubble, feeling the splash of spray on her feet, all without fear of crashing—this was just a commercial. To prove it, she pulled back on the skycycle and did a perfect inside loop right into the lake.

Soon as she hit the water, she was swimming, no longer aboard a skycycle, but nude, wearing only swim fins, goggles, and a rebreather. Warm oxygenated water turned her into an aquatic creature, gliding at will over sunlit sand through schools of tiny silver fish, swimming effortlessly despite never having been in water deeper than a sponge bath—all thanks to the power of advertising.

Suddenly, she was back standing in her oversized suit, warm limbs still twitching from the swim. Suit alarms wailed as a tug came in to dock at the port she was standing on. Her ride was here. Clearing the docking ring, she waited until the locks matched, then entered the tug, finding it spotless compared to what she was leaving—usually a good sign. "Welcome aboard,"

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the tug operator called out from his command couch. "Crack your hat and have a seat."

She had the usual split-second to decide about the man, while the lock cycled closed behind her and ships prepared to part. Was this guy going to hurt her? Should she go back? Risk the next ride instead? Half a dozen times, she had turned right about and been out the lock before her surprised ride said hello. And so far, she had always guessed right, since in hundreds of rides, nothing bad had ever happened. Not *real* bad anyway—not yet. This guy had a comfortable slovenly appearance that did not match the clean cabin, giving him a sympathetic complexity, beefy and easy going, totally adapted to zero-g, yet not afraid to be neat. She relaxed a bit as the lock clicked shut behind her—for better or worse, she was aboard the tug. "Thanks," she replied cheerfully, pulling off her helmet, "shan't mind if I do."

His air tasted as neat as his cabin, not clean and free like on an aerostat, but well-preserved. Kay parked herself in the co-pilot's couch, snapping her belt to the crash webbing, as he asked her, "Where you from?"

Unsealing a glove, she pushed back her big suit sleeve, showing him her tattoo: K-9251949. He nodded at her crèche number, "So you got no family?"

"Just Mom's uncle Lyle." Who didn't know she existed until she'd looked him up. "He has a ship of his own—but it's not as nice as yours."

"*Wish* she were mine." The big man smiled ruefully.

"Well, you keep it real nice." She laid on the compliments thick as she could. "Granduncle Lyle's is some mess."

His jowly smile widened. "What was that ship I picked you up from?"

She shrugged, "Just there looking for a job." She had never even asked the ship's name. "Didn't get it."

"What kind of job?" Captain Inquisitive cocked an eyebrow.

She had not asked what she would carry to Tartarus, knowing it must be heinously criminal—otherwise, they would be idiots to hire her. Unlicensed pilots could cost you your ship; hiring a thirteen-year-old without formal training showed utter contempt for the law, meaning a cargo so despicable only a desperate teenager would haul it "no questions asked." It hardly helped her to know *how* criminal, since bland ignorance was the best way to beat a brain-scan. She shrugged again, "Told you, I didn't get it. How hard is it to gun a rig like this?"

He laughed, "Not hard. Lookin' for my job?"

"Sure thing!" She started asking dumb kid questions about orbital mechanics, getting him to talk tug operations, salvage hassles, ring-runner gossip, rumors of slavers insystem, family problems; he showed her happy waving holos of his three wives and seven kids. When conversation lapsed, she let her mind drift, hopping aboard a feelie ad for an starliner headed outsystem, hiding her absence behind blue-trimmed bangs and a spacey blonde smile.

Starliner *Artemis* was built to pamper interstellar travelers with bars, casinos, lounges, and recreation decks, and a hollow core where garden balconies formed near-vertical cliff faces, seemingly klicks apart, enclosing a virtual space filled with winding trails and cascading waterfalls. Passengers could step from their stateroom terraces into hologram landscapes that were changed weekly—so that just finding your way to a favorite bistro became an adventure. Anything to fight boredom during the months of shiptime it took to see the stars. She sampled wind-surfing on the pool deck and the virtual world of Q-deck, popping back now and again to see if her ride

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was saying anything important. Each time she left the feelie, Orion Lines eagerly reminded her that *Artemis* was nearing Typhon orbit, her last stop insystem—with SPACE AVAILABLE for outbound passengers! She wished that she could go, but she didn't have the credit to get to the Graveyard and back.

Abruptly, her ride was over—the tug pilot was telling her that they were at The Hub. Hurriedly unstrapping, she apologized for daydreaming. Several ships were docked in the torus station, making The Hub look like a rimless wheel with most of the spokes missing. Home sweet home. And time to pay up. Her ride calculated her mass cost, handing her the keypad so she could check his figures. They checked—it would cost all her credit, leaving her nothing for the trip back with her kit. Her bare thumb hovered nervously over PAY.

"Hey, kid," the guy asked softly. "Want to save yourself the credit?"

"Sure," she replied slowly, relaxing her fingers, letting the keypad float away from her hand. Somehow, she had to hustle the credit for a ride back to the Graveyard. Turn this guy down, and the next one might not be nearly so nice. "So long as I do not have to take off my suit."

"You really like that v-suit?" He sounded disappointed at not seeing her naked.

She started to say how little she had to show under the bulky suit, then stopped, fearing it might queer the whole deal. Forced by circumstances to be a connoisseur of child molesters, Kay guessed that this guy was not the sort who got off on seeing girls suffer. He just thought of her as "young stuff" and wanted to get his a little early, making him more lazy than mean. Hell, she could tell that he liked her, though his way of expressing it was to take criminal advantage of her, showing a need for serious psych reprogramming. Pronto. But that was *his* problem. She just told him, "It belonged to my Mom."

"Your Mom was a vacuum hand?" He sounded impressed, and a bit embarrassed at propositioning someone's baby girl.

"She was a pilot, and shipped out across half the galaxy." Kay gave the tug captain her warmest, most dazzling smile. "Mom was born in Alpha C, right next to Old Earth—and this was her v-suit." She did not mention that Mom had died in it—something Kay thought about every time she put it on.

"So you just can't stand to take it off?"

Kay smiled even wider, stubbornly determined to stay in the suit. "It was all she left me." Not strictly true; the transceiver chip in her skull had been left for her too, along with enough credit to have it put into her as a toddler. It had originally been in her mother's head.

"So your Mom's dead? What about your dad?"

"Sperm donor," she replied cheerfully. "MSS-789439-X18."

"Guess that means you're on your own?"

"You bet," she said it like she would not have it any other way.

"And how old are you?"

"Sixteen," she lied to make him feel better, since it didn't matter to her.

"Earth years?" He looked suspicious.

She nodded eagerly. He gave in and let her keep the suit on. Adept at disconnecting parts of her brain, Kay put herself on automatic, sending her conscious mind on another visit to starship *Artemis*—no wind-surfing or virtual-adventuring this time, just leaning on a terrace rail in the liner's hanging gardens, listening to night music and smelling jasmine in the dark

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air, while hologram fireflies blinked ancient come-ons to each other. Her ride ended up tipping her.

As soon as she was off the tug, Kay rinsed her mouth with chemical-tasting wash water, careful not to swallow, wishing she could afford bottled water from the bulkhead dispenser. Corridor taps were clearly marked NOT FOR INTERNAL USE.

To take her mind off her thirst—and her impromptu audition for wife #4—Kay tried guesstimating her chances. To be brutally truthful, she had signed on with hardened criminals who hoped to profit off her trip to Tartarus. Fortunately, payment seemed foolproof, since Tartarus confirmed the credit was hers, merely needing to be claimed. That payment was her lifeline, her chance to go somewhere for real, instead of hitching 3V rides on starliner ads. Best of all, no matter how she turned it over in her head, she couldn't see any real profit, in killing her. If they were blowing up the ship for insurance, why make it murder as well? And what idiot would insure an illegal ring-runner with a teenage pilot? They wanted the ship and Chimps on Tartarus for a reason, a seriously *criminal* reason—so they got a cheap pilot, who knew nothing and could not testify against them, whoever *they* were. Disposable but not doomed, that was her ticket. Just because her employers were hardened criminals, didn't mean they had to be completely heartless.

Squeezing past tired looking families camped in the passageways, she got to her storage locker, and found an aging shaven-headed vacuum hand sprawled in front of it, thin and gaunt, and reeking of potable coolant. Kneeling down, she shook him, "Hey, old-timer, wake up, I need to get to my stuff."

His good eye flicked open, and he stared up at her, his questioning look turning into a lopsided grin. "Kay! I prayed you would come back."

She smiled wearily. "And here I am."

"Where did you go?" His questioning look returned. "No one knew where you went, like you had vanished from The Hub."

Her fondest ambition. She sighed and sat down beside him, "I went to see about a ship."

"What ship?" He started to panic. "You can't ship out. You're my angel, the only beautiful thing I see every day! If you leave, there will be nothing." He waved at the blank passageway bulkhead to prove his point.

Pretty bleak, but that was why she was leaving. "Look," she whispered, "there is good news, but you must keep it secret."

"What good news?" He still sounded wary.

"Promise to keep this secret," she insisted. "I'm signing on as captain."

"Shit, girl, that's absolutely crazy!"

"Ain't it?" She nodded cheerfully. "And criminal, too. With an antimatter drive and a SuperChimp crew. *My* crew, pretty scary, huh? And I want you to go too, as my supercargo. Whadya say, will you come with me?"

He gave her a grateful, bewildered look. "You *are* an angel. My golden angel!"

She laughed outright for the first time in what felt like forever. "Then move over, old-timer. This is Captain Angel speaking."

"Aye, aye." With difficulty, he slid away from her door. "Where are we shipping to?"

She arched a blonde eyebrow. "Does it matter?"

He laughed, shaking his shaved head sorrowfully, "Long as it's not *here*."

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"There could be danger," Kay confessed. "I mean, you know, any lift can be dangerous. . . ." This one more than most.

"Dangerous?" He looked astonished. "Signing unto an unknown ship, sight unseen, for an illegal trip with an unlicensed underage pilot? Where's the risk to *that?*"

She laughed again. "When you put it that way, it doesn't sound nearly so bad. Be ready by the first dogwatch."

He raised a crooked finger, reminding her. "Better to die in space than live in a box!"

"You wish." She thumbed the lock, and her storage box sprang open. He just slept in passageways—she was the one who lived in a box. Crawling into her three-meter storage locker, she closed the door, shedding her mother's suit like a chrysalis in the darkness, followed by her sweat-soaked pants and tee, exposing her bare thin body to the safety of the dark locker. Finding her cooler by touch, she got out a packet of water, broke the foil seal and drank. By the next dog watch, she would be living on ship's rations, eating and drinking her fill for the first time ever.

Now she just felt drained. Lying curled in darkness, she let herself go, crying lightly at being alone, an ache so old that it seemed to always be with her. She thought about her dead Mom, and her dad, Male Sperm Sample-789439-X18. The X18 meant his name could not be released until she was 18. He only wanted to meet her as an adult. Five more years. How the fuck was she supposed to survive until then? Sometimes, she tried chatting with kids on Typhon or Oceania, real kids, on real worlds, with real lives, but speed-of-light lag made her look so hick and stupid, taking forever to answer simple questions. Too slow even for virtual sex, except for the crudest sort of show-and-tell—which she did not much like anyway. She wanted someone to hold her and touch her, and tell her she was not alone.

Her one ticket out of here was the chip put in her skull as a toddler; with it, she could pilot any conventional spacecraft. Mom's files were extensive and continually updated themselves, making for a weird upbringing. How many three-year-old girls had an "invisible friend" who was a gravity drive cyber-friendly, Centuarii Starcruiser? Being born in space, she could not afford to look back. Tartarus could hardly be worse than this, and on Tartarus, credit waited to take her somewhere else. Or so she hoped. Her employers were saving a fortune over the cost of a real pilot; would they kill her to save the little *she* cost? Unlikely. Or to shut her up? Possibly.

Better to die in space than live in a box. Setting her head for 0800, she closed her eyes, returning to starship *Artemis,* to dance through a low-g lounge with handsome hologram officers in snappy Orion Lines uniforms. Movement and music soon lulled her to sleep. One more hitch to the Graveyard, then she would have her own ship—then look out, universe!

MissBehavin

Second DOG WATCH 18:54:33 In constant-g transit to Typhon

Hardwired to her work station by superconducting cable, Heidi Van der Graf stared into virtual space, watching two lopsided moonlets tumble toward each other. Connecting her biocircuitry directly to the onboard systems, the cable plugged into a microsocket at the back of her head that was

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hidden by naturally pink hair. The two tumbling satellites were guardian moons—Aetna I and Aetna II—pockmarked cinders a hundred klicks across, on concentric orbits forty klicks from the outer edge of Typhon's A-ring. With an orbital separation well within their mean diameters, they seemed determined to collide, and Heidi aimed to put *Artemis'* passengers at the upcoming point of impact.

("Ship bearing ZERO-FOUR-FOUR plus TWENTY, looks to be a ring-runner.") Heidi thought heinous thoughts about her boss, having seen the ship already, a Centaurii Comet skirting the rings, making for Tartarus—too old and slow to be trouble. Heidi's whole job was seeing things before they happened; now she felt like her section head was sitting at her shoulder, willing her to screw up, and for no good reason. Sure, she was newly signed on, never serving on a posh starliner before. Worse yet, she had shocking pink hair, green eyes, and dimples when she grinned. So what? None of that made her an idiot; in fact, she could already tweak unrivaled virtual effects out of *Artemis'* humdrum circuitry.

Gasps came over the comnet as Heidi zoomed in on the moonlets. Pick-ups on Aetna II let her plunge straight to the surface, then shoot upward. Passengers packed into lounges and staterooms tuned to 3V found themselves staring up from the airless surface of Aetna II. An astounding scene. Typhon's silvery A-ring rose right out of the short, pitted horizon, standing edgewise in space, neatly bisecting the great neon blotch of the Orion nebula. Six moons were up. Oceania, Typhon's largest satellite, hung like a powder-blue pearl amid the hot young stars of Dawn Cluster. All backed by synthesized accompaniment—Aretha Chou's *Pleiades Symphony*. Not bad for the new girl! Her Orion Lines contract read Signalsmate, Second Class, but Heidi rated herself a virtual artist, with the cosmos for her palette and music for a brush.

Obviously unimpressed, her supervisor broke into the music of the spheres, rattling off irrelevant info on the ring-runner. ("Ship is *MissBehavin,* antimatter drive robo-freighter inbound for Tartarus.") Heidi swore silently at her immediate superior, Chief Signalsmate Marten DeRuyter, a pompous twit, breaking the flow of her act with authoritative announcements, blowing the mood she created. Shut up and enjoy the show! She desperately needed to shine—to go totally nova, showing Orion Lines what they were getting.

Slowly, Aetna I rose up over the stone's-throw horizon. Bigger and more menacing as it came on, the moonlet plunged straight at the smaller satellite, gathering speed. Tumbling toward the viewpoint, its cratered surface grew to fill the entire sky. Millions of tons of misguided rock and ice hurtled right at Aetna II. An unnerving sight, even in 3V. Virtual effects put anyone who'd tuned in smack at the point of collision. Pulses quickened. Music swelled to a crescendo, as passengers braced themselves, hugging loved ones, and hunkering deeper into body-couches. Heidi could hear sharp intakes of breath on the comnet. Heart-attack time. Catastrophic impact rushed at them, scary and awesome, threatening to send unstable personalities caroming about their staterooms.

At the last second, the cosmos flinched. Aetna I and Aetna II somersaulted in space. One instant, they were close enough together to see house-sized boulders on Aetna I's surface. A moment later, Aetna II swung completely around, switching orbits with Aetna I—a dance that the two guardian moons had been doing down through the ages as they swept the outer rim of Typhon's A-ring.

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Instead of facing a shattering collision, passengers found themselves staring at Typhon's vast multicolored cloud tops, while Aetna I whirled off into space, a dwindling hunk of rock and ice. Great brown and yellow bands of ammonium hydrosulfides streamed across the face of the gas giant, whipped by white storm eddies bigger than planets, whirling one into another across a colossal disk spanned by silver rings, incredibly immense and breathtakingly unexpected. Stunned silence turned to cheers, showering Heidi in comnet applause. Chief Steward Taylor called to congratulate her. So did the First Officer. That ought to get DeRuyter off her back.

No such luck. Chief Signalsmate DeRuyter curtly took control, telling her via private back-channel. ("Daddy will do the encore.")

("Why?") Heidi hated men who called themselves "daddy"—especially to subordinates—one more warning that her boss was wired pretty weird. She wanted to keep going, straight down through the cloud tops to the aerostats floating in Typhon's upper atmosphere—contrasting the empty infinity of space with the endless cloud plain of the great ringed planet.

("You'll see, just lay back and learn.")

You wish! Giving up control, Heidi cursed DeRuyter for treating her like a trainee. Sure she was new, but she had given an orgasmic performance, on top of a résumé that read like she'd made it up herself. Her boss would be hard put to do better. She saw Typhon vanish, replaced by blank starscape. The image tightened. At the center of the starfield sat the Centaurii Comet, centuries old and hopelessly obsolete, with her round pressure cabin and stubby antimatter drive, *MissBehavin* bound for Tartarus, the ring-runner. So? Heidi saw the virtual audience ratings slip as staterooms went off-line. Sensors picked up random conversation in the L-deck lounge. Heidi smirked. We can't all be a hit. People drifted toward new pleasures, ignoring DeRuyter's virtual offering. Boredom was the bane of space travel. High-g drives and relativistic velocities had failed to erase the gulf between the stars, but people still wanted to "go there"—even if it took months of shiptime. Designed to meet that challenge, *Artemis* had every stateroom wired for 3V. Plus a pool deck and lounge deck. Another deck devoted to kids. Non-stop virtual shows. Hologram acts and gambling arcades. On-line orgies that would make Caligula blush. Anything to make light-years fly by.

Heidi unplugged. Her internal transceiver let her follow things without being wired into the work station; she used the ship to supply images and boost her signals, but the chip in her skull turned thoughts into actions. Her hand groped for a dopestick. Nasty habit, but she needed to even out the strain, mixing some yin in her yang, making life a little less like work. She inhaled sharply and the stick lit itself, filling her lungs with narcotic smoke.

Too bad she had to light up in a church. Her stateroom was set on bright summer day, showing a 3V interior of La Mezquita, the great mosque built by the Caliphs of Cordoba, converted after the Reconquest into a Christian cathedral. Colorful columns and arches plundered from Roman temples disappeared into virtual distance. Beyond an ornate inscribed archway—patterned on the Mihrab, a prayer niche built by Hakam II—perfumed water splashed on the sunlit marble of the Alhambra's Court of Lions. She wore silk harem pants under her ship's kimono to match the decor, her slippered feet resting on flagstones worn smooth by the knees of pilgrims. Not exactly the Sistine Chapel, but she called it home.

Staring into illusionary space, Heidi took a pull on the dopestick, reveling in her new job security. Orion Lines ought to be ecstatic. She was smash-

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ing—hitting MEMORY, she replayed the applause in her head. No matter how much DeRuyter sneered at her, she had sealed her cozy berth on a pleasure ship headed outsystem, going to see the universe in style. And she hadn't had to drop her harem pants to do it. Always a plus.

Alarm bells jerked her out of her euphoria. Snubbing out the dopestick, she returned to realtime. *MissBehavin* was broadcasting a MAYDAY—a persistent, repeated plea for help.

Closing her eyes, she shut out the Romanesque mosque-cum-cathedral, triggering her transceiver, staring into cyberspace. Traffic control showed a new ship: a sleek gravity-drive starship, swinging out from behind Typhon at high acceleration. Data banks tagged the newcomer as the *Hiryu,* out of Azha system, Eta Eridani. The high-g drive, the silent rush to match velocities, along with Eridani registry—all shouted "Slaver." Heidi heard the viewing lounge fall silent, recognizing the same expectant hush heard on a game park tour when someone spots a leopard or a sabretooth.

Pulling pink hair aside, she hurriedly plugged back in. Horrible things were about to happen. Happily, they would happen to someone else. *Artemis* had nothing to fear from *Hiryu,* or any outback predator. The starliner's energy shielding stood up to the storm of radiation at near light speed. Nukes could not even scratch the paintwork, and in centuries of operation Orion Lines had never lost a starliner. Which would not help *MissBehavin*. *Artemis* was decelerating toward Typhon at 1-g, headed for an orbit inside the Roche Limit, planning a pass between the planet and rings, skimming the cloud tops. *Hiryu* and its prey were farther out, headed for Tartarus—the high-g slaver would be finished with the robo-freighter long before *Artemis* arrived. Any other help was even farther off.

Horrified, Heidi watched a winged gravity-drive gig separate from *Hiryu,* matching velocities with the fleeing freighter. As the gig attached to *MissBehavin*'s main airlock, DeRuyter fed the MAYDAY into the comnet, letting passengers see aboard the doomed ship. Meant to be crewed by SuperChimps and computers, *MissBehavin* turned out to have humans aboard. Her MAYDAY came from a gaunt ring rat, hands trembling, his aged face a mask of fear, begging *Artemis* for help. "Signal to starliner, please render assistance. We are being boarded. . . ."

Not your normal holoshow. This real-time drama had Heidi sitting paralyzed at her station, aghast at the expanding spectacle. Tapping into *MissBehavin*'s onboard cams, DeRuyter broadcast the nightmare scene at the airlock. Alarms wailed hysterically. The narrow corridor filled with dancing sparks as an anaerobic torch cut its way into the ship. Suddenly, the lock burst open. Tripod-legged cyborgs with steel tentacle arms and twin gun-turret heads emerged from the shower of sparks, firing as they came. Crazed SuperChimps ran hooting in terror, unarmed and helpless. Appeals for assistance turned frantic. Heidi hardly believed what she was seeing.

And it got worse. Detecting more images tightcast to private staterooms, she tapped in, seeing the same ghastly scene from the cyborg's point of view—DeRuyter was reading the slaver control channels, a neat trick. Guncams tracked terrified Chimps banging off bulkheads frantic to escape the hail of fire. One by one, they were blown to bloody rags.

Wondering who got off on this live-action shooting gallery, Heidi backtracked one of the tightcasts to an A-deck holo-suite. By now, she knew all first-class passengers by name, face, and predilection. This one she had tagged as trouble, an insolent jerk-off who practically lived on the ship's

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S&M channel. Sitting cross-legged on his zero-g bed in a virtual stupor, he had a headset on, leaning and twisting with the action, mouth agape, sweat gleaming at his temples. Every so often, his fingers twitched. His teenage hired girlfriend lay beside him on the bed, wearing nothing but dead black lipstick and matching nails, looking almighty bored.

Heidi hit security override, blanking the signal to the stateroom. Swearing like a bosun, the punk tore off his headset, feverishly checking his connections, then jacked back in. His hired girlfriend smirked at his troubles. Heidi quit tormenting the little sadist, who was, after all, a paying passenger. Let him have his twisted fun. No sick jerk-off was worth a complaint in her file.

Returning to the tightcast, she saw something new. Mixed in with the signals from the cyborg's guncams was another set from a slaver wired for sensurround. Heidi could not see the slaver's face, just his hands and body, since she was seeing through his eyes, hearing through his ears. Uncanny, but thoroughly familiar to her.

Stepping lightly through the carnage left by the cyborgs, he looked happily about, carefully avoiding the gore and Chimp shit. Heidi could tell he was happy by the spring in his walk, and by the way he glanced around him carelessly, attentive and curious—not the least downcast or wary. His right hand held a recoilless pistol nonchalantly at his side. Making his self-satisfied way straight to the command deck, the slaver shut off the ship's MAYDAY. The old man was splattered across a bulkhead, blasted at close range by some uncaring cyborg. As the slaver knelt to examine the gory remains, Heidi shifted away.

Switching to control deck cams, she got a look at the slaver himself, a cheerful hoodlum with dark tousled hair and a keen, confident air, going casually through his victim's clothing. Clearly a bright, alert boy who enjoyed his work, and did not care who it hurt. *Homo galactus,* born in space, most likely raised a slaver. His uniform blouse was open to the navel, showing off a garish dragon tattoo that twined across his naked chest—*Hiryu* meant "Flying Dragon" in a dead language. Tattooed skulls bracleted his wrist, marking him as a veteran killer.

Done robbing the dead, the slaver straightened up, looking away from the human mess at his feet. His eyes swept the room. To see what he was looking for, Heidi switched back to sensurround, at the same time calling up the deck plan for a Centaurii Comet. He stared hard at the aft bulkhead, which looked to be half a meter closer than the deck plan warranted.

Walking to the back of the cabin, he ran expert fingers over the bulkhead. Heidi sensed the hands of a master smuggler-cum-slaver feeling for flaws in the smooth plasti-metal. His hand stopped. There it was. Jacking up the sensurround, Heidi felt an invisible vertical ridge, right under the slaver's fingers. Together they followed the ridge down to the deck, where the pressure seam felt wider than it should. Curiouser and curiouser. It was weird to be at one with this murderous felon, melding her senses with his. He called for a cyborg.

Heidi shifted to the cyborg. Sensors turned the invisible ridge into a hairline crease, pressure-proof, but real. Anything could be on the far side. Extending a pair of grapples, the cyborg grabbed onto the bulkhead, then pulled sideways. The hairline crease widened into a crack.

She shifted back to the slaver. Pistol leveled at the crack, he signaled the cyborg to pull harder. Staring over the pistol sights, she saw the bulkhead

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creep sideways, widening the crack. She could feel the slaver's finger tighten on the firing stud. His first sign of nervousness.

As the crack widened, a couple of centimeters of girl's face appeared. Heidi could see a blue eye, sharp-cut blonde bangs with a blue trim, a tear-stained cheek, and the corner of a mouth. "Out," the slaver ordered. The visible tip of the girl's lip trembled, but she did not speak. He jammed the pistol barrel into the crack. The girl shrank back—wedging herself deeper into the half meter slot behind the bulkhead. "Out, or I shoot."

He would shoot. Heidi could feel it in his gunhand—the readiness to kill if he didn't get his way. She tried desperately to will his finger off the firing stud, but sensurround didn't work that way. Instead, she felt the finger press harder on the stud. Another milligram of pressure and the pistol would spray explosive shells into the tiny space, ripping the girl to shreds.

Slowly, the panel slid back. Terrified and hollow-eyed, the girl stayed pressed tightly into the tiny space; she was twelve or thirteen at best, wearing a woman's v-suit several sizes too large, with the helmet tipped back off her head. Giving a satisfied grunt, the slaver reached in and grabbed her. As his hand closed on the girl's suit, Heidi unplugged, not wanting to feel his fingers seize the frightened child.

Sensesurround vanished. Signals still came in, beamed straight to the transceiver in her skull, but not with the same intensity. Plugging in was not a necessity—most folks lived fine lives without it—but having the plug in her head gave Heidi her professional edge. Superconducting connections sharpened sensurround and shaved off precious nanoseconds essential for 3V programming.

By now, most of the ship had tuned in. Way more people were on-line than had seen her cosmic tumbling act. Taking a peek at that A-deck asshole, she saw him still wearing his headset, with his girlfriend in his lap, her eyes shut, dead black lips pursed, head resting listlessly on her employer. He reached down between her legs. Heidi cut the signal to the stateroom. Let them put it in her file; she would not let the sadistic little scumbag get off on that girl's fear.

("What are you doing?") DeRuyter demanded.

Heidi did not answer. Screw DeRuyter. Picking up the dopestick, she breathed it back to life, thinking about the girl, trying to imagine what she could do—knowing that the answer was nothing. That girl was gone. Soon she would be headed outsystem in the hold of a slaver, never to come back. The Cosmos could be horribly cruel to the unlucky.

("Consider yourself on report.")

Consider yourself an asshole, she thought, but did not say it—noting that the signal to A-deck had been restored. Good to see someone getting something out of this fiasco. Snubbing out the dopestick, she shut off her cerebral transceiver, stood up, and stalked through the Mihrab gateway into the Court of Lions. Green Cypress tops poked up over the colonnade surrounding the fountain, a shallow basin supported by a dozen sculpted lions. Andalusian sunlight poured out of a hot blue hologram sky. She sat down on one of the lions, letting the water pour over her, soaking her harem pants and ship's kimono. Water and fountain were semi-real even if the sunshine was not.

Damn, what a disaster! DeRuyter had upstaged her, rubbing her face in what the paying public *really* wanted. Who needs art when you can have live-action horror? She stared at the slender marble columns surrounding

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the fountain: a hologram façade, like the hot blue sky above, 3V fakes hiding ship's bulkheads, giving depth and solidity to her compressed world. Reality was different. Reality was a terrified child turned into live passenger entertainment.

Was she wound way too tight? Probably—but with reason. Heidi could not walk away from her problems, no more than that girl could. Not aboard ship. She could not even walk away from her station. Only her resolution to stay shut down gave her a semblance of privacy. Calls were piling up. So what? Let them scold, let them scream. Home is where your head is, and right now, Heidi's head was not accepting callers.

With her head chip off, she was a normal, unaugmented woman, and she meant to make the most of it. Tossing away wet slippers, she struggled out of her pants and kimono, letting sunlit water cascade over her, cool and cleansing, mixing with her tears, then disappearing down concealed drains in the deck. When she gave in and checked her calls, she found herself summoned to a face-to-face with the Chief Steward—the surest sign of authority in a 3V society is the power to demand an appearance in person. Heidi ordered up a crisp starched Orion Lines uniform, figuring that if she couldn't really be a happy slave, she could at least look the part.

Her cabin door dilated ahead of her, and the painted archways of La Mezquita merged into K-deck corridors tuned to high summer in a cathedral pine forest. Giant gnarled sequoias rose up around her, lit by shafts of late afternoon sunlight pouring down through greenery from infinite space overhead. Birds flitted back and forth among the boughs, and animals moved between the trees. Trails connected cabins and staterooms. Stepping into a drop shaft in the forest floor, she told it to take her down to S-Deck. People in the shaft greeted her with broad smiles and shouts of, "What a show!"

Which she found humiliating, but she still smiled back—this was her public. Young and approachable, with her pink hair and ready smile, she had gotten tagged as "the new girl in the crew." Nearly everyone outranked her, and anyone could accost her under the guise of "getting to know you." She had enjoyed the pseudo-popularity—making her feel welcome—but now, it just felt stale, though that did not stop her from smiling. Her job was dedicated to the impossible supposition that everything could be fun! Even mind-numbing months in transit, locked in a metal ship so far from anywhere it took starlight years to reach them. Someone had to keep the passengers content, or at least catatonic, and she would shuck and hustle with the best; she just drew the line at kidnapping and murder. Heaven knows why.

Chief Steward Taylor held court in a tree, having an illusionary glass tree house at the top of a kilometer-high forest canopy—a favorite setting of claustrophobics. Immensity of distance hit Heidi as the corridor door vanished behind her; air and space stretching in every direction, filled with birds and blue day moths fluttering amid the sunbeams. Monkeys swung past, hooting and scampering along the branches. How Chief Steward Taylor passed the psych tests was anyone's guess, since the woman was a mass of nerves and denial who kept her 3V set at wide angle. Taylor loved Heidi's deep-space gymnastics. Instead of aging gracefully, Taylor had gone for the biosculpted look—relying on flame-red hair and slick glossy wrinkleless skin—something Heidi prayed that she had the sense to avoid when she was old and rich. Why would a borderline claustrophobic choose a starship

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career in the first place? To punish herself? Looking sharp was the least of this woman's worries.

DeRuyter was there as well, ungodly handsome in his better biosculpt job, a cool solid contrast to the Chief Steward's fragile authority. Taylor asked frostily, "Is it true that you cut service to an A-deck stateroom?"

Heidi admitted as much. "She's new," DeRuyter explained, eagerly apologizing for her, putting her in the wrong under the pretense of protection. "She's fresh up from the inner system, and doesn't know we mean to show our passengers the real Outback—warts and all." He offered her an out; admit her mistake, promise to be good, and Orion Lines would forgive. Chief Steward Taylor would be equally happy to see the situation go away.

Surprisingly, Heidi found herself standing up to her section head, in front of the Chief Steward no less, insanely demanding a full-blown inquiry. "Outback conditions are one thing—being accomplices to hijacking, kidnapping, and murder is another."

"Accomplices?" DeRuyter looked taken aback. "You can't mean that."

Again, the chance to back down—but she would not take it, charging straight ahead. "I *do* mean it! You knew that slaver was coming. You gave the freighter no warning. . . ."

DeRuyter looked to Chief Steward Taylor, who seemed to want to crawl into a hole—except for her deathly fear of confined spaces. Normally, Heidi was relentlessly upbeat in font of Taylor, not for fear of reprimand, but because she could not bring herself to add to the worries making this woman a nervous wreck. What was the point? Now wild accusations tumbled out of her. "That is abetting in a highjacking, and murder. . . ."

DeRuyter sighed. "No. It's just good operating sense."

"Good operating sense?" It was her turn to be taken aback.

He glanced at Taylor. "Of course we knew that the slaver was coming. It's our business to track their movements. Orion Lines has to know what the slavers are up to."

"But a warning . . ."

"Would have done the freighter no good," DeRuyter assured her. "And it would have let the slavers know that we had cracked their command and control codes—endangering our passengers."

Taylor hurried to back him, seeing the line to hide behind. "This is a rough corner of the universe, and we cannot afford to put our passengers at risk."

"There are no innocents out here," DeRuyter added. "Class-C robo-freighters do not carry passengers; those were smugglers, ring rats—all aboard were breaking the law."

Even the Chimps? "But you didn't have to broadcast it, turning terror and hijacking into a sideshow!"

"We're just reporting events as they happen," DeRuyter replied, making it sound like a public service, "nothing illegal in that." It's never a good sign when superiors insist that your job doesn't *technically* break the law. "Our passengers pay to see the universe up close. Edit out the bad parts, and they might as well stay at home."

"We cannot sugarcoat the cosmos," Taylor added staunchly. Strong sentiments from a woman who turned her cabin into a treehouse. "Our broadcast will be evidence, to be used against the slavers when they are brought to justice."

Fat chance of that! Heidi stared at them. There was more to it than this.

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Way more. What was a slaver doing hijacking some two-bit ring-runner? Right when *Artemis* happened to be there? That could hardly be coincidence. But it was pointless to tell that to Chief Steward Taylor, who feared the forest, only wanting to see the tops of the trees. She and DeRuyter were dismissed.

Outside, Taylor's treetops vanished, replaced by S-deck's simulation of starry night in the Street of Dreams on Bliss. Happy holos gyrated atop glass and neon fun-palaces, dancing to low pulsing music that made you yearn to move with it. Laughter and squeals of delight came from the pleasure arcades—some of them real. DeRuyter seized her arm in his light authoritative grip. He was not just her superior, but was also bigger and stronger, looking down on her figuratively as well as literally—but she could not help being small, or having pink hair. "Listen," he told her, "no one likes what happened to that robo-freighter."

Heidi glared up at him. Really? She could see that he secretly loved it, feeling the excitement in his grip. Just talking about it turned him on. Her job was knowing people's pleasures, and DeRuyter was an easy read. Somehow he was in with the slavers—most likely paying the *Hiryu* to put on a show. Perhaps helping to set up the target. Why else would a high-g slaver snatch up some random ring-runner? Hijacking and kidnapping were capital offenses, not done for nothing. Nor was it bad advertising—contrasting Orion Lines, immunity to the pitiful fate of the ring-runner. Taylor was clearly out of the loop, lacking the nerve for illegal deals with psychotic criminals.

"Technically, you are tops," her boss told her, his fingers feeling her flesh beneath the fabric. "But you lack the killer instinct to make it big. Luckily for you, I could teach you." His hand pulled her closer to him. "You and I could take some downtime together, making your job a whole lot easier."

Instead of trying to shake off his hand, Heidi gave him her sweetest smile, asking, "Why don't I just sue you and Orion Lines for harassment? Then I wouldn't need a job."

Fingers froze, and his hand dropped. "Consider yourself relieved of duty—until we get a replacement from Typhon."

"Consider yourself one awfully sick fuck." Heidi had nothing to lose now by saying it out loud.

Tourist Trap

MIDWATCH 00:00:01 Elliptical orbit inside Typhon's Roche Limit

Faced with unemployment, Heidi summoned up a five-star virtual vacation, courtesy of Orion Lines, assuming they would buy out her contract and strand her on Typhon, letting her sue in the local courts—with scant chance of winning. Until then, she rated the pampering given starship personnel "on leave." Putting *Artemis* out of her head, she made herself a Martian princess in full sensurround, suppressing her conscious memory, so she thought she *was* Queen Heidi of Helium, trimmed in silk and gold, and ruling half a planet; looking forward to long lazy Martian days aboard her personal aerial barge, sailing where she willed, doing as she wished, righting wrongs and throwing parties at whim, without fear of consequences—the ideal balm for her frayed nerves and bruised psyche.

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She began with a mid-air masked ball under strange stars, sending long lost music throbbing through the hot Martian night, mostly ancient mambo tunes along with "Light My Fire" by the Doors. At midnight—in the midst of the wild unmasking to the beat of "Devil in Disguise"—a single-seat flier streaked out of the night, slipping past her picket ships, pulling even with the bridge of her pleasure barge. Spotlights illuminated a bronzed young warlord in battle leather at the controls, his longsword hanging at his waist. Coolly, Queen Heidi—who everyone knew by her pink hair—doffed her black feathered mask and asked the intruder's business.

Leaping boldly from the deck of his little flier to the torchlit bridge of her flagship, the warrior landed at her feet, going deftly down on one knee. Amazon guards moved to protect her, but she stayed them with her hand. "We fear not him, nor his news. Speak your tidings."

Looking insolently up at his Queen, the smug young warlord replied, "EMERGENCY ABOARD *ARTEMIS*—ALL LEAVES CANCELED."

Heidi sat up in her isolation tank, sirens wailing around her. Something horrible had happened, really horrible. She sensed it before she knew the details. Jerking out the contacts, she sprang out of the tank, tuning into the comnet as she dressed. Disaster had engulfed *Artemis,* so swift and deadly she could hardly believe it had happened. Intruders controlled the hangar level—she saw tripod cyborgs firing with turret heads and throwing gas grenades with tentacle arms, clearing a path for SuperCats with assault lasers.

Slavers, obviously, lots of them. But how? Checking traffic control, she saw the *Hiryu* was still half a million clicks off, but closing rapidly, preceded by the gig that boarded the robo-freighter. *Artemis* was docked with nothing more dangerous than her own atmosphere-launch, returning tourists from Fantasy Island on Oceania. Only these "tourists" were shooting their way through the hangar deck, heading for the drop shafts and the starship's hollow center, totally overwhelming ship security, whose training was more suitable for dealing with drunk passengers and petty pilfering. That slavers had seized the launch and docked it with an unsuspecting *Artemis* proved that they had penetrated the onboard systems, "compromising" DeRuyter's precious codes. Traffic control showed three naval corvettes insystem, the nearest a mere fifty hours away—leaving her very much on her own.

She ran through her options, finding them amazingly few. Moments ago, she was a pampered princess, facing nothing worse than a hefty severance check and a chance to sue Orion Lines for harassment. Now she was no longer a princess, nor even an employee, but a victim-to-be, watching her murderers spread through the ship. Hall cams showed Orion Lines personnel being shot on sight, their pleas for mercy cut off in mid-sentence. Anyone who could use ship systems against the slavers was doomed. Facing multiple death sentences themselves, slavers were utterly ruthless, solely concerned with not getting caught.

So was she—only it was not possible. Command and power decks were already in slaver hands, so were the hangar-deck lifeboats and landers, leaving no way off the ship. Having sealed in their prey, slavers were moving out from the hollow core of the starship, hunting for passengers cowering in the staterooms, while methodically murdering the crew. Within minutes, she would be looking over the sights of a slaver weapon, waiting for the guy to fire. Somehow, she needed to stay his trigger finger. But how? Plugging in,

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she frantically searched for reasons why this bastard should not shoot her. Why would a slaver let a potential witness live?

Money, most obviously. Summoning up her personnel file, Heidi used editorial override to make drastic changes. First making herself a passenger, terminating her precarious employment permanently—she was never more happy firing anyone, nor being fired. Next, she gave herself money, staggering amounts of money, plus stock options, interstellar securities, and a grandmother on the board of Orion Bank. Sparing no expense, she made herself worth a monumental ransom, giving her the satisfaction of knowing that any slaver who shot her would be spaced by his infuriated comrades—though she hoped for better than that.

What else? Perhaps a saintly past? Vast charities dependent on her, and her alone? No. Slavers were not impressed by good conduct. Reminded of her past, she hastily knocked ten years off her age. Could she pass for that? She had better, because slavers were notoriously picky, seldom taking anyone over twenty, never over thirty.

Jumping up, she began furiously redoing her hair. She kept her pink hair pinned back, partly to compensate for the color. Nothing could be done about the color, but she let it down, teasing it out, trying to look young and stupid—a ghastly joke, after years of aching to be taken seriously. Through the open channel, she saw mayhem coming closer, deck by deck, while she hurriedly did her hair. What an idiot way to spend her last moments!

When she had her hair half-right, she ransacked her wardrobe for the matching outfit, something to pass off as billionaire shipboard wear. Anything with Orion Lines on it went straight to DISPOSAL, along with any incidental proofs of gainful employment. Slavers reached her deck, and began moving through the suites, shooting anyone who resisted, or just didn't look overly useful. Swiftly, she settled on her best handmade top, a sporty skirt and matching shoes, set off by expensive bits of jewelry, rich but casual, with a touch of spoiled brat. Switching to pale white lipstick and nails, she added to that fresh and confused look, adorably clueless—or so she hoped. Changing identity was at best temporary, meant to get her through the next hour or two alive. Sooner or later, the slavers would see through it—if only because she had no grandmother at Orion Bank eager to pay her ransom. They might tumble to it sooner if they searched coded files she could not change. Then what? She shivered.

With slavers outside her suite, Heidi retreated to the Court of Lions with its hot sun and cool fountain, where she had cried when she saw them take the ring-runner. What a fool, bawling like a baby, pitying those "poor unfortunates" while steadfastly refusing to take their last dying lessons to heart, totally sure of her superiority. How could their dismal fate possibly apply to *her?* Now she would find out. Calling up a chair, she sat casually staring into the illusionary forest of Romanesque columns hiding the suite door. Water splashed onto wet stone behind her as she waited. It was 00:21:13. Not bad. Get out of this alive, and she would market the twenty minute make-over.

Seeing a flash of tawny fur among the columns, she tensed. Here it comes. Forcing herself to smile, she cursed the unfairness of this. Please, not *me*—I don't want to die. What did *I* do? But she knew the answer. Ghastly as it sounded, she'd *asked* to be here, snapping at the chance to shill for Orion Lines, gladly obeying superiors she knew to be hapless idiots—so long as she was paid. When she'd found out they were in with slavers, she'd virtu-

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ously quit, going on mental vacation, trusting Orion Lines to see her safely to Typhon. This was the result.

The 3V illusion made the slaver seem to step from behind a column, appearing in the midst of the virtual colonnade. He was two meters tall and covered in tawny fur beneath his battle armor, with a cat-like face, luminous amber eyes, little round ears, and big curving upper canines that came down past his chin. He walked upright on humanoid legs and pawed feet. Supercat. *Homo smilodon.* SuperCats combined human and cat DNA, and were created millennia ago for situations needing brutal intimidation—for which this easily qualified. Beneath the fur and teeth he was nearly human, with some cat characteristics, like the tendency to play with prey, and total indifference to human sexuality—normal SuperCat males were only aroused by female SuperCats in heat. Clothes, lipstick, and her new hairdo meant nothing to him. He gave her a sabertooth grin, humanoid hands holding an assault laser pointed at her midriff, his finger on the firing stud. "Hello, human. Are you Heidi Van der Graf?"

Yes or no? Which answer would get her killed? Had this SuperCat seen her absurdly magnified résumé, or was he working off some stolen crew list? Cheerfully shooting anyone answering, "Yes." Forcing herself to look into his amber eyes, and not down the muzzle of his assault laser, she smiled back brainlessly. "Guilty as charged."

So would she be executed for it? His toothy smile widened, hopefully a good sign. He cocked his cat-like head toward the door, saying, "Come with me."

Taking this as a temporary reprieve, she rose and strolled to the door, the laser muzzle never leaving her midriff. The 3V was off, and blood-flecked bulkheads had replaced the green pine forest. Struggling to stay in character, she stepped over the bodies of people she knew, pretending they were hapless strangers—Katie from kid-care lay alongside a cute comtech named Liam. Holding in her tears, she acted like she only feared bloodying her shoes—luckily it is easy to convince a SuperCat that you are just a walking hairdo. Most corpses wore Orion Line uniforms, but she saw live passengers, horrified and helpless, sitting in terrified silence while the slavers sorted through their catch, deciding who to keep and who to discard. Herding her into a drop shaft, the SuperCat took her to an A-deck suite with the 3V turned off, an ironic combination of gold-striped beach umbrellas shading handwoven hammocks hanging from bare bulkheads—showing the ship beneath *Artemis'* silken skin.

He prodded her at gun point into a posh dining nook with the 3V still on. She suddenly stood on a wide arc of sunlit beach, fringed with palms, with three gaudy-striped cabanas spaced around a luau pit and a huge carved driftwood bench. Tall dark wooden tikis marked the high-water line. Sitting on the driftwood and in the sand nearby were some of the most salable passengers, people Heidi knew at once—all A-deck, all good for megacredits. Sonya Hart, a favorite feelie star, her face instantly familiar. Anna Lu, twenty-something co-founder of Dawn Systems. Victoria MacEvoy, an Orion Lines owner's teenage trophy wife, holding his two year-old heir. And the remains of the Talik family, owners of a huge health-care cartel on Aesir II, a teenage heir and several smaller children. Next to them sat another truncated family, this time the youngest wife, and two small boys belonging to senior wives, both biotech heirs—throughout the trip, the family had shunned the new young wife; now, the two small scared survivors clung to their hated stepmother for comfort.

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Hunched on a rattan beach chair by herself, arms hiding her breasts, was Megan Kalojanovec, the hired girlfriend to the trigger-happy A-deck sadist, still wearing nothing but black nails and lipstick. Simulated sea breeze raised tiny goose pimples on Megan's bare white flesh. Making a weird little tableau, with everyone else dressed in elegant pajamas and evening wear. Despite the sun and sand, it was early in the midnight watch, reminding Heidi of a childhood poem:

"The sun was shining on the sea, shining with all its might . . . and this was odd because it was the middle of the night. . . ."

Kids sitting in the sand sang out, "Hi, Heidi!" knowing her by her pink hair and the shows she put on, and the cheerful way she answered questions. Thank heaven that kids are tough, and used to getting guff from adults. Cautiously the oldest Talik asked, "Heidi, what's happening?

Scared faces looked to her, women and kids, expecting the worst, but hoping to hear better. Armed SuperCats stood by the cabana that hid the door to the suite, but no one asked them anything. Sonya Hart had been crying. Victoria MacEvoy looked angry. Anna Lu studied her intently. None of them knew about Heidi's fancy new identity—to them, she represented Orion Lines, the voice of authority, a slim hope in a world gone horribly wrong. She decided to get past the obvious bad news, "We've been captured by Eridani slavers. *Artemis* is totally in their hands. Our nearest hope of rescue is fifty hours away."

That last at least was news, and faces around the firepit fell even further. "What do they want?" asked Anna Lu, who had made billions building and promoting Dawn Systems, blithely dictating terms to Orion Bank and system-wide governments. How hard a sell could these slavers be?

"You are all worth a lot of credit," she reminded them hopefully. "Families and corporations will pay well for our safe return."

Which provoked a flood of further questions, "How long will that take? What about the rest of our family? Where are the men? What about my dad? Where is my mother?"

Heidi lied, "I don't know." Her best guess was that they were dead, or currently being murdered, but she would not say it. Not in front of the children. Anna Lu understood, sitting back, eyeing her coolly, trying to separate hard fact from hopeful fiction. Lu had two male partners, older and less shapely, but nearly as rich; neither was here.

"What about me?" asked Megan softly, sitting naked by herself, chewing busily on a black fingernail. Tears had made a mess of her heavy mascara. "I'm nobody. My boyfriend had credit—he offered them tons of it—but they shot him anyway."

And Megan had had to watch. Heidi nodded silently, not wanting at all to go there. She had painted as pretty a picture as possible for these terrified passengers—sure, folks were dying around them, but *they* would all be fine, sent home for whopping ransoms. That was her job, keeping the customers happy, or at least not hysterical. But Megan was right—why had they not shot her? Maybe they would. At any moment, slavers might come in and rectify the mistake—but Heidi doubted it. They would keep Megan for reasons that Heidi didn't want to think about, bringing up all the unsavory stories about slavers and their victims. The rest of them were in desperate denial, hiding behind megacredit fortunes—but not Megan, and not her.

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"No one has been shot," snapped Victoria MacEvoy, as if Megan were a naughty child. Which sounded especially absurd since Vicky MacEvoy was younger than Megan, wearing garish silk pajamas that matched her toddler's—making her own child look like a fashion accessory.

Megan stared open-mouthed at the trophy wife in her mom-and-toddler pajamas, while hologram gulls wheeled noisily overhead. Blood was smeared halfway down the rent-a-girlfriend's bare white thigh.

Young Mrs. MacEvoy shook her head violently, her voice high and hysterical. "No one shot your so-called boyfriend. No one at all has been shot!"

Megan rolled black-ringed eyes, "Listen, Lollypop, I *saw* it hap . . ."

"Nonsense," the trophy wife snorted. "How much are you paid to sit there naked, telling lies to scare people?"

"Not near enough." Megan stared out to sea, giving up on trying to enlighten her betters.

"People have been shot," Heidi insisted with soft certainty, having stepped over the bodies herself—merely remembering made her gag. "But please be quiet about it." She nodded toward the children.

"Ridiculous!" Victoria MacEvoy would not be mollified, "I demand you end this virtual amusement at once!" Virtual amusement? Is that what wacky Vicky thought this was? Anything this horrible had to be 3V. Heidi sympathized, wishing to heaven she could stop it just by flipping channels. "If you will not," the owner's wife declared, "I demand to speak to your supervisor."

Good luck. Her superiors had been hunted down like vermin, so she could easily be the senior surviving crew member. Heidi blandly declared, "I have no superiors." Not any more.

"Absurd!" Vicky MacEvoy denounced the whole mad business. "I demand to see your immediate supervisor at once."

Paying customers get their way, especially rich demanding ones. As if in answer, SuperCats propelled Chief Signalsmate Marten DeRuyter out of a cabana into their midst; his hands were bound, and he was ashen-faced. Women and kids shrank back. Heidi didn't blame them. DeRuyter looked a mess; everyone was scared, but *he* was absolutely petrified, standing out horribly in his Orion Lines uniform, the only adult male present, unless you counted SuperCats. "Thank Heavens!" Seeing the uniform, Vicky MacEvoy clapped her hands. "Now I demand that you end this charade."

DeRuyter stared blankly at his boss's young wife, not knowing what charade he must end. All Heidi could think of was her grandmother's saying, "He who sups with the devil had best use a long spoon." DeRuyter had been so sure he was using the slavers, while they were really using *him*—dooming all of them to this living hell. Heidi had thought DeRuyter comfortably dead, and had mixed feelings about his stumbling back from the grave, however briefly.

Before the conversation could get more confused, a hologram flickered to life—standing in the sand was an armed slaver, the same confident cheerful hoodlum with dark tousled hair that Heidi had seen aboard the robofreighter. *Homo galactus*. He wore his uniform jacket closed, covering his dragon tattoo, but the bracelet of skulls still showed on his wrist. She was not the least pleased to see him again, even in hologram form, but DeRuyter's face lit up and he asked hopefully, "Hess?"

"How happy to see you." Hess clicked his virtual heels. "And you too, ladies." He bowed jauntily to his audience on the driftwood bench. Hess ex-

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uded a creepy genuineness, though speed-of-light lag made his speech and movements seem overly formal, full of restrained eagerness. Despite the distance, Heidi could tell that Hess was indeed indecently happy to see them, since they represented a job well done, leaving him scant reason to complain. Turning to DeRuyter, he declared, "It has been a absolute delight doing business with you."

"Thank you," DeRuyter looked hopeful, not in the least embarrassed by having been in business with the people who had massacred his shipmates. "Thank you, so very much. . . ."

Hess waved his thanks aside. "Alas, our business is now at an end—but a suitable parting gratuity will be deposited in your name with Orion Bank."

"That is hardly necessary," DeRuyter smiled faintly, not wanting anything connecting him to this catastrophe, least of all slaver credit at Orion Bank.

"It is a done thing," Hess insisted. "You need only name an heir."

DeRuyter looked shocked. "Why?"

"Because otherwise, the credit will go to Orion Bank." Hess grinned at Heidi—showing that he had seen her phony file—then he signaled to the SuperCats, saying, "Do it in the next room." Not until the cats grabbed him did DeRuyter realize what Hess meant, then he begged for his life as they dragged him kicking across the sand into the cabana that masked the suite's master stateroom—there his cries were silenced. Hess turned happily to the horrified women and children, "Now we can get better acquainted. Commander Hess of the *Hiryu,* at your service."

Gulls screeched in reply, but no one on the driftwood said a word. Heidi had never seen people so scared of a holo—especially a handsome smiling one. Even Vicky MacEvoy took this hologram Commander Hess for the real thing, holding her little boy tighter. Looking away, Heidi saw beach and sea stretching in both directions, oppressive in its lying openness—the only real exit was through the cabanas, as DeRutyer had discovered. Being a pro herself, she had to say that the wretched scene only lacked a pirate galleon waiting in the bay to carry off the losers. Getting no volunteers, Hess asked politely, "Anna Lu?"

Slowly, the Dawn Systems director rose to her feet, turning out to be tall, with dark wide-set eyes, high cheekbones, a *café au lait* complexion, and raven hair hanging to the waist of her handsewn jacket. "I am she."

"But of course," Hess bowed, thoroughly enjoying his courteous charade, "you are rightly famous. We use your micro-programming on the *Hiryu,* whenever we can steal it. Will you come with me?" He indicated the smaller cabana, next to the one DeRuyter was in.

Anna Lu nodded, walking purposely across the sand, letting the door close behind her. Taking his leave, Commander Hess followed, strolling right through the cabana wall. Heidi sat down on the driftwood bench beside the Talik kids, waiting silently, staring out at wavetops sparkling under the midnight sun, remembering the rest of the poem; it was "The Walrus and the Carpenter" from *Through the Looking Glass,* which used to scare her when she was small, thinking of the poor little oysters being eaten alive. Now it pretty much petrified her, sitting under the midnight sun on a make-believe beach, guarded by a SuperCat who made a grim walrus with his tan fur and gleaming white tusks:

"I weep for you, the Walrus said, I deeply sympathize;
With sobs and tears he sorted out those of the largest size. . . ."

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Her forgotten fear had suddenly reached up out of childhood, becoming a relentless horror consuming her real life.

Anna Lu appeared at the cabana door, stepping barefoot back onto the sand, no longer wearing silk slippers or her handsewn jacket, just her red sheath dress. Without moving her head, the Dawn Systems director rolled her dark eyes, as if to say, "Bad, but it could have been worse."

Heidi knew what she meant. Holo Commander Hess emerged from the cabana wall, looked them over, then casually asked for, "Heidi Van der Graf?"

Her turn. She stood up, thinking, "This is it." Fool Hess, or die. Walking nervously toward the cabana, another line from the poem popped into her head:

"A pleasant walk, a pleasant talk upon the briny beach. . . ."

She shivered, remembering how the slaver's hands felt, finding that microseam in the ring-runner's bulkhead. Hess would be looking her over for lies just as carefully.

The 3V was off inside, turning the cabana into bare bulkheads and a float-a-bed. Jerking people in and out of 3V was standard interrogation technique, shaking your hold on reality, or in her case, unreality. Determined not to be rattled, she shed all her training, "being" a brainless passenger, a granddaughter of Orion Bank, born to privilege, currently enduring the worst rudeness in her pampered existence. Seeing Anna Lu's slippers and jacket lying on the deck, she reached down, scooping up the silk jacket on impulse, ostentatiously trying it on as Hess stepped out of the wall. "What do you think?" Sticking her hands in the pockets, she turned slowly to model the too-big jacket, looking as clueless as she could. "Neat, huh?"

Hess grinned, "It goes with your hair." Until the gig made contact, Hess could only be there in hologram, so he was taking his time, savoring his success. "Now take it off."

Shrugging off the jacket, she let it drop to the deck. Hess nodded, still smiling, "Do not stop."

Giving her most petulant look, she asked, "What do you mean?"

"Pray continue to undress," Hess explained. "Unless you prefer being stripped by SuperCats?"

Probably—but her best chance was to cooperate. Pouting visibly, she kicked off her shoes, loosened the matching skirt, then let it fall, closing her eyes and telling herself she was in an empty room, with Hess thousands of klicks away, unable to touch her. When she was done, she stood with eyes shut, arms folded across her breasts, reducing Hess to a creepy synthesized voice. He told her, "Jewelry too." She dropped earrings, rings, and an anklet onto the clothes and shoes. Hess thanked her. "So the hair is a natural pink. Is it hereditary?"

"Gene-splice generations ago." Heaven knows why, someone wanted a pink-haired baby. "Grandma's was pink too, before it went white."

Hess ignored her pretended tie to Orion Bank—a weird sort of slaver compliment, showing that he cared more for who she was than who she claimed to be. Orion Lines had taught Heidi that ransom was a sideline for slavers, there being safer ways to earn a living than hijacking starships. *People* were what slavers wanted—they just liked them valuable as well. People were among the rarest things in Human Space, and easily the most

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useful. Interstellar distance and Universal Human Rights made the usual means of human exploitation harder—so civilized society employed bioconstructs like SuperChimps and SuperCats. Slavers went for a simpler solution to the shortage of humans, taking the ones that looked most promising for ransom, resale, bioengineering, spare parts, or mere personal amusement. Pink hair might easily mean more to Hess than an imaginary megacredit ransom. "You are lying about something, or at least holding back," Hess observed, not saying how he knew—if he had thought she was crew, he would likely have her killed her at once, pink hair or no. "Why are your eyes closed?"

"Embarrassed," she admitted. That much was true, she did not like being naked in front of some strange slaver, even one thousands of klicks away.

"Are you really twenty-two?" Hess asked.

"Last April," she lied cheerfully, imagining Hess scrutinizing her body, glad for once to be small in all senses of the word. "Just big for my age"—another arrant lie.

"Open your eyes," Hess ordered. She obeyed, finding him right in front of her, asking a question she especially feared, "Why was your suite not on A-deck?"

Fortunately, she'd taken a passenger cabin to stay close to her audience, but her digs were not at all A-deck quality. Shrugging nude shoulders, she acted as if she could have had any cabin on the *Artemis,* and chose to go slumming. "I wanted to have fun."

"We shall try to oblige," Hess grinned and bowed. "Dress please—just the top and skirt, leave the shoes and jewelry."

"Why?" she asked stubbornly, hiding her relief by being miffed, acting as if she'd never heard arbitrary orders before.

"You will not be needing them," Hess explained evenly. She didn't have the nerve to ask why not, dressing silently instead. As she left the cabana, Hess stepped through the wall to call out, "Sonya Hart?"

Sonya Hart got up off the driftwood and headed for the door, arching an eyebrow as they passed, "Tough audition?"

Nodding, she gave the feelie star's hand a squeeze. "Knock him dead."

Back to the beach. Anna Lu was gone, and Megan too, leaving only young wives and little kids waiting on the illusionary sand-spit. Before she could ask what had happened, SuperCats closed in, escorting her through the entrance cabana to a drop shaft. She tried to tell herself, "This is good. Really good." Had they meant to kill her, they wouldn't be taking all this trouble. Dropping to the hangar deck, the SuperCats led her to a cargo box, unsealing the container and telling her to get in. She balked at the sight of the six cubic meter box, barely coming up to her breast, but it was impossible to argue with several armed SuperCats. Getting down, she crawled into the container, still telling herself—this is good, this is good.

Megan was already inside, doubled-up naked in one corner, blinking at the light. Heidi picked the opposite corner and settled in, saying, "Glad to see you."

SuperCats sealed the box, shutting out the light. Megan laughed dryly in the dark. "Come on, Pink Hair, do you *never* go off duty? No one could pay me to be so perky."

No mean compliment considering Megan's chosen profession. "But I am glad," Heidi protested. "I was afraid you were dead."

Megan snorted in disgust. "This is not what I call living."

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Too true. Still, Heidi had her hopes—but she was not about to spill them out loud. Slavers had centuries of experience with prisoners, and the box could easily be wired for sound. She and Megan were clearly doubtful cases, possibly put together to hear what they would say. She asked what happened to Anna Lu. "Saw her go into a lifeboat," Megan sounded jealous. "We are the ones they have doubts about."

Anna Lu had made billions before she was twenty, and now was the first one off *Artemis* alive—it did hardly seem fair. She reminded Megan, "We're not dead yet."

"No, we still have that to look forward to." Megan was not about to be cheered. Heidi couldn't blame her—now they could both sue Orion Lines for megabucks. Too bad the settlement wouldn't set them free. "Admit it," Megan demanded bitterly, "we're screwed."

"Nothing new to *you,*" Heidi observed tartly.

A laugh came out of the dark, and Megan's bare foot kneaded hers. "Pink, I'm way proud of you. You said something mean!"

"Been trying to broaden myself." Resting her head against the wall of the box, Heidi closed her eyes and opened her mind, tapping into the shipboard channels. Not much. Computers were locked down tight, virtually shut off. Nor could she contact any crew members through transceiver chips or biophones. Here or there, she encountered a wired-in slaver, and steered clear, careful not to set off mental alarms. Plainly, she was the only one left. She thought about Chief Steward Taylor with her claustrophobia; killing Taylor was a mercy compared to stuffing her in this box. But Taylor must have been really scared. She started crying for the first time since catastrophe struck; who would have thought that it would be over her Chief Steward?

Megan heard her sobbing and anxiously apologized, "Hey, Pink, I'm sorry. Look, I know I got a mouth. We're not going to die, we'll get out of this, you'll see, somehow. . . ."

"No, no," she sniffled, feeling like an idiot. "It's nothing you said."

"What are you crying for, then?" Megan asked—making her the first person in all this who wanted to know how *she* felt. Unless you counted Hess.

"For an ex-boss," she sighed and wiped her eyes, feeling the tears subside.

"Must have been a good one," Megan ventured.

"Nope, pretty lousy," she admitted, but she cried for her anyway.

Megan took her hand in the dark. "Yeah, I know how that is." Megan's former employer had been no pearl himself, and Megan ruined her mascara over him.

Lacing her fingers into Megan's, she tried again, determined not to be sucked down a black hole of hopelessness. Giving up on the onboard systems, she sorted through signals between slaver ships, mostly in codes she had no time to break. She tried tapping into the ships themselves, searching out open systems, or breaks in encryption. Nothing. Slaver defenses were way better than they had any right to be, giving her no access to onboard systems. She could see how DeRuyter was so easily suckered.

Suddenly, she was in, hitting an uncoded transceiver. At first, she thought she was in some slaver's head chip, getting audio-visuals from the auditory and optical systems—but a closer look at the visuals showed that whoever's head she was in had thin girl's legs, baby-strapped to an acceleration couch so that she couldn't reach the buckles.

Pulling out, she backtracked the contact, finding that it came from a docking slaver, the same *Hiryu* gig that boarded the ring-runner—that made

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this the little blonde girl with the blue trim, that Hess had pulled from hiding. Slipping in again, she saw the gig through the girl's eyes, heard through her ears. She was looking silently forward, watching the slaver at the controls, following his movements as he guided the gig into contact with *Artemis*. Heidi realized that the girl was memorizing the controls and docking sequence, making sure she could fly the gig if she ever got the chance. Good girl. Deciding to see how far she could push the contact, she tried signaling the girl. ("Hi, my name is Heidi. Can you hear me?")

"What in hell?" Visuals blurred as the girl's head whipped around, giving Heidi a quick view of slavers and SuperCats packed into the gig like some bizarre armed tour-group. Seeing no one near her, the girl's gaze turned back to the slaver at the controls.

Heidi tried again. ("Do you hear me?")

"Shit, yes!" This time the head did not twitch.

("Shush, shush, please!) She had to keep the girl from attracting attention. ("Don't shout. I'm in your head.")

"No shit!" Settling deeper into the couch, the girl whispered, "Who are you?"

("My name is Heidi, and I want to help you. Don't say anything out loud, wink your right eye for yes, your left for no. Are you the girl from the ring-runner they hijacked?")

The girl winked right.

("Good. What's your name?") She forgot that that was not a yes or no question. But the girl was ready; unsealing her sleeve, she ran her thumbnail under the initial letter of her crèche ID, K-9251949.

("Kay? Is that what you are called?")

Another wink yes. *Her* nickname had been "Pooch."

("So were you crew on that ring-runner?") Heidi remembered how the girl eyed the gig controls.

Pursing her lips, the girl whispered, "Pilot."

("Perfect! Could you fly this thing if we got you to the controls?")

Wink yes.

("Great. We must wait for our moment, so keep this contact open. Okay?")

Two emphatic winks yes.

As the gig docked with *Artemis,* Heidi tapped back into the hangar-deck cams, watching more slavers come aboard. Hess led, arrogant as ever, and in the flesh this time—bad news there. He would be a hundred times as hard to fool in person. Kay was with them, looking small amid the men and SuperCats, walking silently, staring straight ahead from beneath blue-trimmed Dutch-girl bangs. Led across the hangar to a lifeboat, slavers ordered her inside. Heidi signaled her. ("Outstanding! Stay aboard that boat if you can—it means they are going to keep you.") She saw Kay smile and look around, then the hatch closed, cutting off her view—the lifeboat was not a part of *Artemis,* and she could not access its onboard systems directly. Could she get Kay to plug into them? Probably. Then what? She called up a deck plan of the lifeboat, then settled back to think, sorting through options, trying to put a plan together.

Bright light stabbed at her. Shading her eyes, she saw that SuperCats had opened the box. They told her to get out—which she did. As she squeezed past Megan, their gaze met for a moment and she tried to think what to say. Megan's black lips curved into a rueful smirk. "Hey Pink, in case I don't see you again later, this cruise has been a real pleasure."

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"Thanks," she returned Megan's wan smile, "we try to please."

Taking that as her motto, she followed the SuperCats to a vacant casino bar on the lounge deck. Almost vacant—Hess was at the auto-bar, happily holding a bottle of two hundred-year-old whisky up to the light. Empty casinos always seem menacing; this one more than most—holos hung frozen and lifeless over gaming machines set to suck the credit out of whoever dared enter. Hess nodded at a slate black poly-carbon sofa across from him, telling the SuperCats, "Put her there, then leave." They obeyed, and she sat surveying the sinister-looking lounge, finding it pleasantly corpse-free. Bringing over a pale pink drink, Hess told her, "Here, this is to match your hair." She tried to protest, but he insisted. "Please, I want you to relax."

Really? You're going about it dead wrong—Hess was, in fact, scaring her senseless. Taking the drink, she held it uselessly in her lap. Pouring a shot of whisky, Hess sat down across from her, happily announcing, "You know I could have you brain-scanned." Always a catchy conversation-starter. "But I want to hear you tell the truth willingly," Hess confided, "so I put something in your drink instead."

"What?" She looked aghast at her pink drink, which could contain anything—poison, brain parasites—and she would have to drink it.

"Nothing harmful," Hess assured her, "it won't kill you, nor even knock you out—it just lets you tell the truth."

"Why?" Especially when you will shoot me if I do?

"For your own good," Hess told her, leaning forward speaking earnestly. "Unless you are willing to trust me, you are useless to us. Which neither of us want."

And she had so hoped to be useful. "So drink," Hess told her, "or I will have it injected into you." Seeing that she would not do it herself, Hess guided the glass to her lips. She sipped warily, feeling alcohol go straight to her head; her last meal having been a virtual feast on Mars. Megan was right, you could not keep up a perky pretense forever, not in the face of pure evil backed by brain-scans and truth drugs. Unbelievably weary of the whole sick charade, she wished that she could tell someone, even Hess—but damn, they'd murdered every other crew member.

Reaching over, Hess traced her cheek with his finger. "This is the real thing, not a stitch of biosculpt. That makes you young and pretty, though not as young as you pretend. You cannot really be fabulously rich as well." Hess laughed. "Who is that lucky?" Anna Lu? Vicky MacEvoy? Having Hess inspect her for wrinkles did not make her feel lucky. It felt like the blind date from Hell, sitting in a turned-off casino lounge clutching her drugged drink, while her date tried to decide whether to take her home or kill her here.

"You are not really a granddaughter of Orion Bank—are you?" Hess asked casually, not looking the least upset at losing a megacredit ransom. She shrank back into the soft inflated sofa, hiding behind her glass, helpless terror rising inside her. Here it comes. He knows. Hess doesn't care about the ransom because he knows it's not real. He just wants to make sure, then he will kill me. Setting aside his own drink, Hess sympathized with her plight, "Come, you cannot lie forever—it slays the soul. I myself try to lie as little as possible. Having a life-or-death secret you can never tell must be terribly lonely?"

Horribly so. Hands shaking, Heidi nodded, not saying what she was admitting.

"There, isn't that better?" Hess steadied her hands, lifting her drink to her

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white-painted lips, using that sweet reasonable paternal voice that implies that you are childish to resist when you have no choice. "Here, a toast to the truth." Tears welled up as she sipped the pink drink, not feeling a whit better. Hess asked her, "Now, why did you lie?"

Throat frozen in fright, she could not speak, so Hess answered for her, "You lied to appear more valuable to us. Natural, understandable, no one can blame you. I would have done the same." Tears rolled down her cheeks, and she started to sob, not caring how it looked, just wanting the hellish business to be over—to be finished with fear and lies. She had not wanted any of this, not in the least.

Hess put his arm around her shoulder to comfort her. "You are crew, aren't you? An Orion Lines employee?"

Unable to say words that would doom her, she brushed at her tears, staring up into his smug heartless face, sounding as hollow as a cheap voice chip. "Are you going to kill me?" That was all that mattered, and Heidi had to know, even if the answer was yes. "Please tell me."

Hess grinned heartily, "Why no. Not now anyway. I just wanted to hear the truth from you."

"Thank you, thank you. . . ." Collapsing into his arms, she sobbed with relief, not caring that Hess was a monstrous slaver who had murdered her boss, just utterly thankful that she was not going to die—not now at least.

"No, no, don't thank me." Hess laughed, patting her happily. "You can thank your hair." He signaled for the SuperCats, and she sat there with his arm around her, feeling like a sniveling fool, listening to him instruct the cats. "This female is crew. Keep her away from everyone and everything, and put her back in the container alone—leave her nothing. Nothing at all. And keep the container sealed until we get to *Hiryu*."

He helped her courteously to her feet, asking, "The truth wasn't so bad, was it?"

Compared to what? Being shot right here and now? She supposed that was so. Wiping her eyes, she smiled as sweetly as she could, saying, "Next time I'll take the brain-scan."

Hess grinned, bowed, and bid her good day, letting the SuperCats take her back to the box. What an absolute bastard! Hess positively relished attempts at resistance, so long as they were futile. Stripping in front of SuperCats is not near as bad as it sounds, since they are utterly uninterested, wearing nothing but combat armor themselves, over tawny fur that she still found wonderfully beautiful. Humans—clothed or unclothed—were all the same to them, to be killed or obeyed as occasion demanded. Unsealing the box, they helped her inside, then shut the container behind her, giving her less consideration that a cat gives a mouse. Humans were not even their normal prey.

Megan was gone, leaving a whiff of perfume behind, *fitnah,* an aphrodisiac scent made from mimosa blossoms. Heidi hoped that was not all that was left of her. For the first time since the madness started, she was alone, in what passed for privacy, sealed in a cargo container on a doomed ship, about to be carried off by slavers. Saved by her hair color—what a colossal comedown! She should be happy, Hess could have taken tissue samples, but something convinced him to take her too, though he didn't turn a credit on the deal. Not even Anna Lu could say that.

But saved for what? Slavers were going to own her, body and soul. Once aboard the *Hiryu,* she would give in totally, she could tell—she might some-

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times fool others, but never herself. Had Hess even put anything in her drink? Probably not. Booze, sugar, pink froth, and the power of suggestion had her blubbering the truth to Hess. Faced with nothing worse than an empty casino lounge, she'd broken down totally, crying on his ghastly shoulder—absurdly grateful not to be murdered right away—stammering her thanks to Hess, just like DeRuyter did, with no guarantee that she would not end up worse than him. What would it be like when they had drugs, sensory deprivation, brain-scrub, and the leisure to *entirely* break her? God, was she ever going to sue Orion Lines!

Something shook the box, then lifted it up. Hangar cams showed a smartlift loading her into the same lifeboat Kay was in, a lifting-body shaped, gravity drive lander, meant to evacuate passengers in emergencies—for which this certainly qualified. Slavers were using it to transfer their human catch to the *Hiryu,* and as soon as the hold sealed, they lifted off. She called to Kay. ("Are you there?")

"Where else?" the girl asked under her breath, sitting in the lifeboat's main cabin amid the *Artemis* survivors. Anna Lu was in the seat ahead of Kay, with Megan beside her. Sonya Hart sat across the aisle, with one of the little Talik boys on her lap—all of them baby-strapped to the seats. Guarding the cabin door was a SuperCat armed with a stun grenade and a pair of riot pistols; hardly a promising picture, but they were headed for the *Hiryu,* where things would only get worse.

("Good. I am in a sealed storage container in the hold below you. Check the armrest of your seat, there should be an emergency connection, a small coil of superconducting filament stored in a recess on the underside. . . .")

"Got it," Kay practically shouted, when a wink would have done as well.

("Quietly.") She repeated the word. ("Quietly, plug yourself in.")

Suddenly Heidi had total access to the lifeboat's onboard systems, lights, cams, seat controls, emergency exits, alarms, life support. . . . Only the main controls were off-limits, with the autopilot disabled and a SuperCat flying the boat manually. There were two cats aboard, the one in the cabin and another at the controls—but no other slavers. The slavers must have felt that that was sufficient for a cargo of unarmed women and children strapped into their seats, or stuffed in a box in the hold. She spoke softly to Kay. ("Listen, I'm scared, really scared. I can't let them get me on their ship. . . .")

"No shit, Sheila," Kay hissed back. "I'm not looking forward to turning fourteen aboard a slaver."

Kay was thoroughly afraid as well, Heidi could feel her fear through the link, making her own heart sink. She struggled to keep them from amplifying each other's terror, dragging themselves down into black despair. ("Quiet, please listen to me. Wink if you think you can pilot this boat.") Kay winked. ("There is a chance I can get you to the controls, so we can make a run for it. It is risky, and could get you killed.")

Kay's eyes rolled, as if to say, "Riskier than *this*?"

Heidi saw her point. Kay did not have a megacredit ransom on call either, and was rightly terrified about how she would be "useful" to the slavers. ("Wink if you want to do it.")

Kay winked twice.

Heidi took a deep breath and checked the cams. Hess was about to wish that he had put her box in a different boat. ("I'm going to start by unlocking your seat. Don't leap up, or react, just be ready.")

Another wink. She unlocked Kay's harness, at the same time disabling

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the seat alarm, so that the change would only show as an amber light on the main control board. Heidi also triggered the heat-shield alarm and HOLD DECOMPRESSION, glaring red lights and angry wails claiming hull integrity was compromised—insuring that the amber glow on the seat indicator panel got zero attention.

Spinning about, the SuperCat in the cabin dilated the door behind him, stepping into the suit locker, wedged between the control cabin and the main airlock—the lifeboat was built like a tiny starship, collapsed into itself. Heaving up a hold-access hatch, the SuperCat disappeared into the hold, where he started checking connections. Heidi signaled Kay. ("Go, now, get into a suit.")

Kay burst from her seat, diving past a shocked Anna Lu into the suit-locker, where she struggled into the smallest suit she could find, cinching it tight. As soon as Kay unplugged from the couch, Heidi lost direct control, and had to call orders to Kay. ("Close and seal the hold hatch!")

Kay kicked the hatch shut with her boot, and locked it manually, sealing one SuperCat in the hold, at the same time pulling on her helmet one-handed, setting an indoor record for donning an over-sized suit. Heidi shouted to her. ("Now get to the co-pilot's couch! Then plug us in!") Closing the suit locker door behind her, Kay dilated the command cabin door, scrambled onto the empty co-pilot's couch and plugged herself in through a suit jack—putting Heidi back in charge.

Sitting up on the command couch, the startled SuperCat snarled in protest, drawing his riot pistol. "Human," he shouted, "return to your seat, or I will shoot!"

Before the surprised SuperCat could fire, Heidi by-passed two fail-safes and hit PILOT EJECT. His seat oxygen tent inflated around him as the deck flipped up, flinging the pilot into Typhon orbit. Air rushed out of the cabin after him.

Sealing her half of the cabin, Kay cut the false alarms from the hold, shouting, "What now!" There was no need to whisper anymore, since they had the lifeboat—aside from one angry SuperCat prowling about below. Who fortunately had no reason to suspect that the cause of his troubles sat huddled in a nearby container. "Where do we go!"

("Take her down! Straight for Typhon!") Safety lay in the gas giant's cloud tops, beyond the great rings. Starships like *Hiryu* were not designed to land on gas giants, and any slaver landers would be overwhelmed by Typhon-bound craft as soon as they entered atmosphere.

"Hold on tight," Kay called to the horrified passengers over the boat comnet, "We are under new management! This is your captain speaking, brace for high-g maneuvers!" Ignoring shrieks of protest from the baby-strapped passengers, Kay whipped the boat about in a high-g turn, diving straight at Typhon's cloud tops, aiming to just shave the inner edge of the A-ring, shooting the gap in the rings swept out by Tartarus' gravity.

Calls came from all directions, jamming the net: Typhon traffic control, naval intelligence, outraged slavers, news networks, concerned strangers. Kay clung hard to the controls, talking only to Typhon Traffic, ignoring or deflecting all other calls. "Heidi," she shouted, "Hess is calling! Talk to him!"

Heidi made contact with the slaver back aboard *Artemis*. ("Commander Hess. How happy to speak to you again.") Especially at a distance.

Hess laughed. ("You were right, I should have had you brainscanned.") Which would have turned up her implant.

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("Tried to tell you. But I hope we can part friends.") Or at least very distant enemies.

("Would that we could. We have two Hellhound hi-g homing missiles with anti-matter warheads locked on you. Return at once.") Hess was not lying—traffic control showed the two missiles separating from *Hiryu,* accelerating toward the lifeboat.

("Or what? You'll kill me?") Like he killed Taylor, DeRuyter, and lord knows how many others. Anger flared up, now that she was free to speak. ("You would kill me either way. At least those Hellhounds will cost you billions in ransom.")

Hess sounded wounded. ("That is hardly fair; had I wanted to kill you, I would have done it already. Save me my ransom, and I swear I will let you live.")

She snorted. ("So you may keep me in a cell and harvest my eggs, to raise pink-haired babies to sell? Is that your absolute *best* offer?")

("Never fear, you have beaten me. Unfairly too, I might add, resorting to tears and lies. Women's weapons, but you wielded them well. Your performance in the lounge convinced me that I had nothing to fear. Forgive me for underestimating you. Brain-scan would have been better, but I thought I didn't need it, not with you at least. Had I taken even the minimal precaution of shipping you separately, we would not be having this conversation. So you and your little pilot are free to go, keeping your precious eggs and pink hair, just jettison the passenger section into Typhon orbit. . .")

("Then you would missile me for sure.") Dump her billionaire passengers, and Hess would have no reason to hold his fire.

("What? Waste expensive missiles out of *spite?*") Hess sounded hurt again. ("Hardly. Dump the passenger module and you will halve your mass and double your acceleration ratio, easily beating any missile to Typhon. I am offering a simple trade, your life for my captives. You release your load and I recall the missiles. Acceleration and orbital mechanics will keep us both honest.")

Damn, Hess actually had a plan—the bastard. She had been playing for time, getting closer to Typhon's cloud tops, never thinking that Hess would have a reasonable offer. Heidi had underestimated the man again. She was not going back, that was for sure. But what of the others? Guess wrong, and she would get them all killed. So what to do? Hold a vote? Hardly, but she couldn't just decide for them. Putting Hess on hold, she went on the lifeboat's comnet, telling the terrified passengers the good news first. ("We have seized this lifeboat, and are headed for safety on Typhon.") Feeble hurrahs came from the frightened passengers. ("But they have fired Hellhound missiles after us.") Gasps of horrified dismay. ("We will do our best to evade. . . .")

"Get me to the command deck," Anna Lu demanded. Heidi released her at once, and the Dawn Systems director dashed into the command cabin.

Heidi continued. ("We will try to evade the missiles, but Commander Hess has promised to spare anyone who surrenders now—to be released when ransom is paid. Does anyone want to go back?")

No one said a word. Fairly remarkable for a group of frightened, angry, opinionated, and royally put-upon women—but there was absolutely no interest in returning to the hell they had miraculously escaped from. Live or die, no one wanted to go back. Heidi put a call through to Hess. ("Don't take this personally, but everyone aboard prefers Hellhound missiles to your hospitality.") Unless you counted the SuperCat in the hold.

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("Personally? Perish the thought. Those Hellhounds you wanted are on the way—Good luck, Heidi.")

Always the gentleman. Sitting in the blackness of her cargo box, she switched to traffic control, watching the missiles come on, accelerating so rapidly that the lifeboat seemed to stand still. Hess had not lied, the missiles were horribly fast. And less than 10K klicks away. Make that less than nine thousand. Eight thousand. Seven thousand. . . .

Hellhounds had antimatter warheads designed to penetrate the lifeboat's shields. *Artemis* would have turned them aside easily, and sent something worse back, but the lifeboat could only run. And not all that swiftly.

"MISSILE IMPACT IN TWO MINUTES," announced the autopilot.

Switching to the command deck cams, she saw Kay's head stuck in the Doppler hood, while Anna Lu crouched over the controls with a headset on, furiously reprogramming the lifeboat's energy shields for high density and sub-light speeds. Their lifeboat wasn't just a lander, but a mini-starship as well, with shields to withstand the rain of radiation at near light-speed. Anna was converting them to brush aside or annihilate smaller particles of ring material, while Kay prepared to dodge the bigger pieces, everything from eccentric ringlets to house-sized chunks of ring-ice and mini-moonlets populating the A-ring gap "cleared" by Tartarus' gravity. If they even got to the gap.

Heidi went back to watching the Hellhounds come on; they were at five thousand klicks, then four thousand, then three thousand. . . .

"MISSILE IMPACT IN ONE MINUTE," announced the helpful autopilot.

Horrified, Heidi called to Kay. "We are never going to make the gap—they're gaining too fast!")

"No shit!" Kay shouted back. Without taking her head out of the Doppler hood, Kay yelled to Anna Lu, "Program to avoid the moonlets, I'll dodge the smaller stuff."

"WARNING, THIRTY SECONDS TO MISSILE IMPACT," chimed in the autopilot.

Thirty seconds. What could she do? Her head chip answered back—null program. Nothing. She had done everything she could, staying alive, hiding her talents, picking her time, seizing the lifeboat, doing the absolutely impossible, and she was going to die anyway—

"TEN SECONDS TO MISSILE IMPACT."

G-forces threw her sideways, as the lifeboat did another high-speed turn. She called to Kay. ("What's happening?")

"Hang on to your toes," Kay shouted back. "We're going in."

"FIVE SECONDS TO MISSILE IMPACT."

("In *where*?") Heidi braced herself, back against one wall, feet against the other, hands pressed hard against the top of the box. Five fucking seconds—she couldn't believe it.

"Into the ring." Kay plunged the lifeboat into the broad flat A-ring, actually a vast array of frozen particles streaming in parallel orbits around Typhon, everything from micron-sized hail to great ice boulders and little moonlets. Shields flared bright with burning particles, while pebble-sized pieces burst like flashing sparks within the fiery corona.

"TWO SECONDS TO MISSILE IMPACT."

Heidi saw the klicks tumble as the missiles streaked toward her—FIFTY klicks, then THIRTY, TWENTY, TEN. . . .

Hundreds of thousands of klicks across, the rings were only a few hun-

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dred meters thick, paper-thin by cosmic standards. Bursting out the far side, the lifeboat tore on toward Typhon—blowing ring material in all directions. Still the Hellhounds came on. Heidi watched in horror as the twin missiles streaked closer, coming within five klicks, then four, three, two. . . .

Both missiles struck the A-ring, instantly exploding in huge flashes of radiation that washed harmlessly over the lifeboat. Hellhounds had only rudimentary shields, and anti-matter warheads were useless against high speed particles and the relentless hail of ring material. Heidi gave a cheer, hidden in her dark box. Anna Lu answered her. Kay was still glued to the Doppler, dodging errant swarms of ring ice, and no one else realized what had happened. Almost no one. ("Heidi, are you still there? This is Hess.")

("Yes.") She answered warily, hoping he had not come up with yet another way to trap her.

("Congratulations. For having nothing to offer but a head of pink hair, you have turned out to be most challenging prey. May we meet again soon.")

("Not if I can help it!") Heidi broke contact, collapsing against the side of the box. She was alive, and free, headed for a soft landing at the hands of a hot pilot, backed by a programming genius on the onboard systems—maybe she could relax. At 03:57:46, there was not much left of the midwatch. In less than four hours she had lost her job, her shipmates, and nearly her life and sanity as well—one hell of a way to start the day. When she felt the buffeting from the first layers of atmosphere, she knew that she was safe; she had done it, bringing the lucky *Artemis* survivors back, alive and whole, with their fortunes intact—all without harming so much as a SuperCat.

Typhon Corporation cops unloaded her crate, armed policewomen helped her out and had a robe waiting, telling her that she had done wonderfully—saying it with that touch of thankful pride you never hear in men's praise, no matter how fulsome. And it was pretty fulsome. Once she was presentable, men clapped her on the back, and everyone cheered her. Her whole hijacking-escape ordeal had been broadcast live from the spaceliner's first MAYDAY to the fiery plunge into Typhon's cloud tops—including ongoing 3V from *Artemis,* where slavers were finishing up their looting. System-wide audiences eclipsed anything anyone had ever seen, outdrawing even the recent Sonya Hart "Farewell Performance." Aside from sheer entertainment value, she had saved the system from paying the major share of some staggering ransoms. Anna Lu's loss alone would have sent markets plunging.

Public thanksgiving paled before the private celebration thrown by Sonya Hart, who rented a floating aerostat to give a gigantic victory brunch for the *Artemis* survivors—with live chefs, and a dozen types of fresh fish flown down from Oceania. Sonya's studio beamed a star-studded show up from the inner system, and local celebrities danced with rich young widows like Victoria MacEvoy. Heidi found herself at a luxurious realtime event she didn't have to organize, supervise, or entertain—for once, she could sit back and please herself, without worrying if everyone else was having a good time.

This totally unnatural state lasted until she saw Kay alone on a bubble balcony staring out at the boundless cloud plain. She went to see if the girl was okay. Kay laughed at the question. "Okay? I've wanted my whole life to come here. I'm just hoping they'll let me stay."

"Let you stay?" She saw real worry in the serious blue eyes beneath the blonde bangs. "What do you mean?"

"I have no credit, no job," the girl explained. "Even lost Mom's v-suit. I was supposed to be paid for piloting that Comet to Tartarus, but that never hap-

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pened. . . ." Twenty-four hours before, she had been in the Graveyard, signing on to pilot *MissBehavin*.

Heidi took the girl's hand, thinking that there would always be a link between them—both their lives had turned on the last twenty-four hours, when they had saved each other time and again. Kay had told her about her dead Mom, and Male Sperm Sample-789439-X18. Though technically old enough to be Kay's mother, Heidi felt more like an older sister, stumbling on a long-lost sibling she'd never known she had. "Don't worry, you can stay with me—or wherever you like. You're rich. Incredibly rich, so rich you'll never have to have a job again, unless you want one."

Kay laughed, "No, I'm the one person in this room who is *not* incredibly rich, or even employable."

Heidi shook her head. "We're both rich. Megan too. You were hired to illegally pilot that ship to Tartarus by an Orion Lines officer named Marten DeRuyter—making you a minor who was exploited and put at risk in order to profit Orion Lines." She explained the whole scam to Kay, how DeRuyter had tried to use the slavers, and how the slavers had used him instead.

Kay stared wide-eyed at her. "But why me? What did I do?"

"I'm afraid you were picked for being photogenic." And foolhardy. DeRuyter was free to cast anyone as the freighter pilot, so he'd picked the perfect slaver victim, young and vulnerable. Hess had no doubt approved.

"But I'm a damned good pilot," Kay protested.

"No lie, little girl. They'll be telling this story forever." How a teenage ring rat on the run rammed an Orion Lines lifeboat through Typhon's A-ring, with a fortune in ransom aboard and two slaver missiles on her tail.

"Un-fucking-believable." Kay shook her head sadly. "So this was all planned as *entertainment?*"

"Reality 3V." It had been Heidi's specialty.

"Folks damn well got their money's worth!"

"Not yet," Heidi explained. Not by a long shot. "There'll be a monstrous lawsuit, lasting well into your adulthood, and until it's settled, you'll be totally taken care of as both a major claimant and a star witness."

"And after the settlement?" Kay asked nervously, glad to hear she wouldn't have to start supporting herself at once.

"Then you'll be fabulously wealthy. If you don't believe me, ask Anna Lu." Heidi didn't even get into 3V rights and spin-offs, but Kay believed her, heaven knew why. When someone has been repeatedly in your head, seeing through your eyes and hearing through your ears, you do tend to trust them. What was there left to hide?

Together, they looked out on this sparkling new world they were entering—this world of having whatever you want. Sonya Hart stood on stage, enthusiastically introducing hologram feelie-star friends to her fellow survivors. Vicky MacEvoy had a man on each arm. Anna Lu sat in a long sparkling gown talking earnestly into her comlink, while a live waiter poured her green mint liqueur. And on the dance floor, rich young women were doing the latest Vanir dirty dance craze, happily humping the air, whether or not they had a partner. "No wonder Hess was driven to violence," Heidi observed. "We have it, and he wanted it."

Kay nodded, apparently unable to decide what was more astonishing, the vast expanse of real open space around her, bordered by endless cloud plain, or her appallingly strange future. Feeling her uncertainty, Heidi softly squeezed the girl's slim hand. "But best of all, you won't have to do it alone." ❍

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ON BOOKS

Peter Heck

THE OTHER WIND
Ursula K. Le Guin
Harcourt, $25.00 (hc)
ISBN: 0-15-100684-9

Le Guin's new Earthsea novel follows from the situation of *Tehanu,* the fourth novel in the series. At the same time, it picks up the trail of events of her short piece "Dragonfly," published in last year's *Tales of Earthsea.*

The story begins with a sorcerer named Alder seeking the house where Sparrowhawk, the former Archimage, now lives in retirement. We follow him from the port where he disembarks, learn that most of those he meets distrust sorcerers, and finally find out what has brought him here. Alder's sleep has been haunted by dreams of his late wife, who kissed him from across the low stone wall that separates living and dead in the Dry Land, the shadowy afterworld of Earthsea.

Sparrowhawk finds Alder's dream as troubling as Alder himself does. Contact between the living and dead is unheard of; somehow, through the dream, the dead must be trying to return to the world of the living. Having abandoned his magical powers and much of his knowledge as part of the price of his abdication, Sparrowhawk decides to send Alder (accompanied by a kitten who eventually is named Tug) to Havnor, to consult with Tenar, Tehanu, and the young king Lebannen.

At Havnor, the king receives Alder with honors, and takes his message seriously. He calls together Tehanu, Tenar, and other advisors to hear Alder's story. At the same time, Alder learns of a crisis that has come to Havnor. Dragons from out of the west have begun to return to human lands, not striking directly at people, but setting fires, destroying houses and fields. Now two dragons have settled atop a volcano, claiming it as their ancestral territory. And they have heard of the story of Dragonfly, the young woman who went to the school at Roke and after being challenged by some of the masters, turned into a dragon and flew away. A crisis is clearly at hand, to which the solution appears to be a journey to Roke by all concerned parties—including a princess of the barbarian nation of Hur, sent as a bride for King Lebannen.

Le Guin follows the characters on their journey, building up small but telling details of the world they inhabit. Despite the seriousness of their mission, the journey brings out a fair amount of comic interplay between the men and the women of the party, much of it centering on Seserakh, the barbarian princess. As always with Le Guin, the characters are subtly drawn and the story takes place as much in their interactions as in the external actions of the plot. The climactic scenes are built up to slowly and effectively, and the novel's resolution, while without a great deal of overt excitement, effectively closes this chapter of the Earthsea saga—which has the look of a final chapter. But one shouldn't take too much for granted; Le Guin has changed her mind before.

One of the most anxiously awaited novels of the year, *The Other Wind* will likely find a large audi-

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ence and spots on more than one award list. We've all seen that before, with returns to favorite fictional worlds by authors who made their reputations decades ago. And it is fair to say that Le Guin is no longer the writer who created Earthsea for an audience of young readers. If anything, she is deeper and subtler than ever; the book will amply reward those who have admired her earlier work.

BONES OF THE EARTH
Michael Swanwick
Eos, $25.95 (hc)
ISBN: 0-380-97836-9

Among the most popular classic SF stories—and two of the first that really grabbed my own imagination—are L. Sprague De Camp's "A Gun for Dinosaur" and Ray Bradbury's "The Sound of Thunder." The combination of time travel and dinosaurs is hard to resist, drawing on two of the fascinations many SF readers have in their early years—one could add dozens of examples to the two stories already mentioned. So Michael Swanwick's newest, which plays at length with both of those themes, is inevitably a great deal of fun.

The novel starts when a mysterious stranger who calls himself Griffin visits a paleontologist, Richard Leyster, offering him a new position the details of which he leaves unspecified. Leyster, who has just begun work on an unusually exciting find, declines. Griffin, evidently unruffled, leaves behind a picnic cooler, which the paleontologist opens to find the head of a stegosaurus—freshly severed from a living animal. Not surprisingly, Leyster agrees to become one of a group of paleontologists who travel back into the Mesozoic to study living dinosaurs.

Leyster's story is one of several lines that Swanwick follows, introducing characters from several points in time who interact at various points in their lives. Due to the nature of time travel, the age differences between characters can change radically from one meeting to another. This complicates Leyster's relationship with Gertrude Salley, a paleontologist from his own future with whom he finds himself in competition almost from their first meeting and who he keeps meeting at different chronological ages (and different stages of their careers) throughout the book. It also complicates Griffin's job, which involves preventing the flow of information the wrong way in time. Salley, who knows things that Leyster hasn't found out yet, keeps offering him tidbits of information from his own future, sometimes hoping to entice him into a closer relationship, and at other times trying to undermine his self-confidence. Meanwhile, Griffin hints at some shattering event in the far future.

But Leyster finds happiness going back to study the dinosaurs firsthand. Unfortunately, the advent of time travel has done nothing to mollify creationists who continue to contrive ways to explain away the new evidence of prehuman lifeforms as a scientific hoax. Other creationists take an even more militant stance toward the new discoveries, as one group sets in motion a plot to strand a scientific party—of which Leyster is a member—in the Cretaceous.

The exploits of the stranded party are a fine bit of adventure writing in themselves. Leyster and his team work to survive a hostile environment in which their advanced technology gives them only a temporary edge. Surrounded by a dinosaur ecology in which they are pitifully weak intruders, the scientists manage to make several breakthrough discoveries (most of which appear to be convincing speculations by Swanwick, who has clearly done his paleontological homework). The whole scenario gains considerable tension when we

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learn that, while the stranding has already taken place in Griffin's past, and has been successfully overcome, this series of events has varied from what Griffin's history records—and thus everything about the outcome is in doubt.

At the end of the book, Swanwick sends his time travelers as far into the future as they have been into the past, into an era after the current wave of mass extinctions has run its course. The fact that *Homo sapiens* is among the species that has gone extinct is only one of the plot twists of this final section. There, in the far posthuman era, Leyster and Salley discover the future of the planet, the bittersweet nature of humanity's legacy, and come to a final resolution of their own relationship.

A very strong effort by Swanwick, adding new imaginative twists to one of the classic SF scenarios, and carrying the reader along almost from the first pages. Don't miss this one.

THE FREE LUNCH
Spider Robinson
Tor, $22.95 (hc)
ISBN: 0-312-86524-4

The title of this one ought to conjure up echoes of Heinlein, whose influence is apparent here as throughout Robinson's work. The key phrase of course, is "There ain't no such thing as a free lunch"—Heinlein's reminder that, in the real world, everything has its cost. But just what the cost is may not be apparent until late in the game.

The protagonist is Mike, a young boy who has planned to escape from his unbearable home life by hiding in the behindscenes area of a giant amusement park, Dreamworld, which combines the best characteristics of the Disney parks with other icons of popular culture. But almost as soon as Mike's plan is underway, he finds himself taken up by Annie, another stowaway behind the scenes of Dreamworld. Annie is a dwarf, who makes use of her short stature to blend in with the scenery in some of the park's fantastic settings. For some reason, Annie has taken a liking to Mike, and so permits him to share her hideaway in the supposedly uninhabited areas beneath the surface of Dreamworld that the customers never visit.

At first the plot gets most of its mileage from Annie's educating Mike in the various ways of getting food, shelter, and other necessities of life while living undetected in the nooks and crannies of Dreamworld. Mike is a precocious fellow, and he and Annie trade bits of lore—how to make coffee, how the park uses subsonics to control customers' moods, and so forth. He finds her library—predictably including a large fraction of SF and fantasy books and tapes. And we learn a fair amount about the park itself, not just behind the scenes but out front, where some of the most popular attractions include "Johnny's Tree," a homage to John Lennon's vision. Much of this will ring bells with Robinson's fans, representing as it does the author's own favorite bits of literature and art. So far, nothing unusual.

The second level of the plot kicks in when Annie reveals that something fishy is going on in the park as a whole. Somebody is masquerading as a park employee, arriving from someplace unknown and leaving the park with the rest of the crew at closing; who is doing it, and why? The two of them begin to investigate the mystery, and Mike quickly comes up with a plausible scenario. But just as they begin to follow it up, they run head on into still another complication, one with more direct consequences—and no small degree of danger—for them.

Robinson effectively jacks up the tension as the plot progresses, and gets considerable mileage out of his

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two protagonists—who many readers will recognize as variants on two common character types in Heinlein's work. At the end, the meaning of the title comes clear. It's good to see Robinson putting out a standalone book, and even better to report that it's one of the best things he's done in years.

THE ICE LIMIT
Douglas Preston & Lincoln Child
Warner, $7.99 (mm)
ISBN: 0-446-61023-2

This one's probably best described as a techno-thriller with a hard SF idea at its core. The book begins with a treasure hunter in the Cape Horn Islands—one of the most remote and inhospitable areas of our planet—discovering something beyond his wildest dreams. It then jumps to New York, where Palmer Lloyd, a fantastically rich collector, bids one hundred million dollars for a pair of fossil skeletons on auction at Christie's. Inevitably, Lloyd learns of the incredibly rare find—the nature of which is still a mystery to the reader—and determines to have it. That sets up the central plot.

Preston and Child then assemble the rest of the large cast of characters (many of them interestingly flawed) who will take part in Lloyd's plan to recover the object, which Lloyd believes to be the largest intact meteorite known to science—estimated weight, four thousand tons. They include Sam McFarlane, a former partner of the treasure hunter who found the object; Rachel Amira, a mathematician and physicist; Sally Britton, captain of the specially designed ship Lloyd has built to retrieve the meteorite; and others—engineers, crew, the ship's doctor. Then, without further fanfare, they are aboard the ship and on their way to Cape Horn.

The difficulties in their way are substantial. Far from least among them are the weather and terrain: even in the best of times, the Cape Horn Islands are subject to vicious storms and frigid cold. The particular island that they are headed for is located in waters too deep to build a pier from which to load the meteorite. Events are further complicated by a Chilean naval officer who has decided that the expedition is in violation of treaties that give Chile possession of anything found on the island. But the biggest single obstacle is the thing itself, so heavy that getting it out of the ground and aboard ship will require a major engineering effort. And that doesn't even begin to take into account the mysterious forces that killed McFarlane's partner shortly after his discovery of the object.

The authors spice the plot with conflicts among the characters and careful building of suspense. This kind of story requires a fair degree of research: into the setting, into the engineering complexities of moving the meteorite, into the ship itself, into the different kinds of meteorites and their compositions. The authors effectively blend this information into the plot, and manage to keep the important plot surprises under wraps until it's time to let them out of the bag. Better yet, almost all the elements of the premise are used to crank up the tension, leading to a climactic sequence with the ship fighting the deadly weather as it tries to escape a Chilean warship in the seas between the Horn and Antarctica. And the final plot twist kicks the book firmly into the SF arena.

A solid performance that SF readers who like to dip a toe in other genres are likely to enjoy.

OUR COSMIC HABITAT
Martin Rees
Princeton, $22.50 (hc)
ISBN: 0-691-08926-4

Britain's Astronomer Royal offers

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up a survey of current thinking in cosmology. Originally delivered as a series of lectures at Princeton, it begins with a question once posed by Einstein: whether God *could* have made the universe any differently if he had wanted to.

Rees's speculations on the origins of the universe and the laws of physics begin with the objects—stars, planets, and their lesser relations—that make up the visible universe. Once modern astronomy made clear the nature of the planets as worlds like ours, scientists (and of course many SF writers) entertained the idea that these distant worlds might be as hospitable to life as ours is. But advances in observational technique have gradually eliminated the worlds of our solar system as likely homes for advanced life forms (with the possible exception of ourselves). This has inevitably made the Martians of Wells, Burroughs, and Bradbury scientifically obsolete, along with many other attractive SF scenarios—although one can argue that their imaginative impact remains despite their fall from scientific grace.

SF writers still have the option of placing intelligent aliens in niches such as the atmosphere of Jupiter, as Clarke did so effectively in "A Meeting With Medusa," or on worlds circling stars beyond our solar system. While SF has long assumed the existence of extrasolar planets, it has only been in the last decade or so that astronomers have been able to detect them. And of course the observational techniques have so far detected nothing resembling a terrestrial planet. Life may well be the inevitable product of commonplace physical conditions, but at present, scientists who believe so have little better evidence on their side than those who believe it to be a rare cosmic fluke.

What most scientists do agree on is the general uniformity of physical laws throughout the observable universe. Gravity pulls at the same strength, and the relative masses and charges of the elementary particles remain constant. All this can be accounted for by a single creation event, dubbed the Big Bang by the late Fred Hoyle (who argued against it). Radio astronomy has given theorists a good idea of what conditions were only a fraction of a second after the Bang. But certain parameters, such as the relative abundances of matter and antimatter at the time of the Big Bang, or the comparative strengths of the different forces that act on all matter, seem to be arbitrary. This annoys many scientists, who would prefer something simpler.

This has led many of them to return to Einstein's question: what would happen if these parameters were different? (In fact, recent observations suggest that one of them, the fine structure constant, *did* have a slightly different value at an early stage of the universe's evolution.) Alternately, Rees suggests, some versions of superstring theory allow for other universes in higher dimensions that our senses aren't able to detect— "bubbles" of reality, each with its own physical laws. These alternate universes aren't necessarily beyond the reach of science; provocative theories prompt scientists to find ways to test them. As interesting as the last hundred years have been for physicists and astronomers, the next century is shaping up to be just as much fun for their successors.

This comprehensive overview of the major landmarks of modern astronomy and cosmology is clearly, often entertainingly, written. Recommended for SF writers who'd like to mine current theory for cool ideas—or for readers who'd like to keep up with what the writers are playing with. ❍

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SF CONVENTIONAL CALENDAR

The election returns are in: Boston has been selected for the 2004 WorldCon. Plan now for social weekends with your favorite SF authors, editors, artists, and fellow fans. For an explanation of con(vention)s, a sample of SF folksongs, info on fanzines and clubs, and how to get a later, longer list of cons, send me an SASE (self-addressed, stamped #10 [business] envelope) at 10 Hill #22-L, Newark NJ 07102. The hot line is (973) 242-5999. If a machine answers (with a list of the week's cons), leave a message and I'll call back on my nickel. When writing cons, send an SASE. For free listings, tell me of your con 6 months out. Look for me at cons behind the Filthy Pierre badge, playing a musical keyboard.—Erwin S. Strauss

MARCH 2002

1–3—**MarsCon.** For info, write: **Box 600458, St. Paul MN 55106.** Or phone: **(612) 724-0687** (10 AM to 10 PM, not collect). **(Web) www.marscon.org. (E-mail) info@marscon.org.** Con will be held in: Bloomington MN (if city omitted, same as in address) at the Radisson. Guests will include: John Levene, Robin Wood. Fantasy.

8–10—**MeCoN. www.mecon.org.** Senior Common Room, Queens U., Belfast UK. Wingrove, McLeod, McDonald.

9–10—**Creation. (818) 409-0960. www.creationent.com.** New York NY. Commercial Star Trek event.

9–10—**Creation. (818) 409-0960. www.creationent.com.** Valley Forge PA. Commercial Star Trek event.

15–17—**LunaCon, Box 3566, New York NY 10008. www.lunacon.org.** Hilton, Rye Brook NY. Foster, Gurney.

15–17—**Coastcon, Box 1423, Biloxi MS 39533. (228) 435-5217. www.coastcon.org.** Coliseum & Gulfbeach Resort.

15–17—**OdysseyCon, c/o Van Epps, 901 Jenifer, Madison WI 53703. (608) 260-9924.** Best Western Inn on the Park.

15–17—**StellarCon, Box 4 EUC, UNC, Greensboro NC 27412. (336) 334-3159.** Marriott Downtown. Allston, Zahn.

15–17—**RevelCon, Box 17364, Austin TX 78760. fb_mercury@hotmail.com.** Houston TX. Adult media fanzines.

15–17—**GothCon, 911 N. Hennessey, New Orleans LA 70119. (504) 482-9559.** www.gothcon.com. Horror.

17–19—**London Book Fair, 26 The Quadrant, Richmond TW9 1DL, UK. (203) 840-5313.** London UK. Trade only.

17–24—**Oz Cruise, 505 Jocelyn Hollow Ct., Nashville TN 37205. (888) 711-7447.** Ft. Lauderdale, to Caribbean.

21–24—**AggieCon, MSC Box J-1, TAMUS 1237, College Station TX 77844. (979) 845-1515.** Tex. A&M U. Gaiman.

21–24—**Left Coast Crime, Box 18033, Portland OR 92718. (503) 281-9449.** Doubletree. Saylor. Mystery fiction.

22–24—**MidSouthCon, Box 11446, Memphis TN 38111. (731) 664-6730.** Holiday Inn Select. C. J. Cherryh, Kidd.

22–24—**MillenniCon, 143 Schloss Lane, Dayton OH 45418. (513) 659-2258.** Kings Island (OH) Resort. McHugh.

22–24—**GalactiCon, c/o Baumgardner, 6636 Shallowford Rd., Chattanooga TN 37421. galacticon@vel.net.** Ford.

22–24—**AnimeMarathon, c/o Sternheimer, Alterdorfer st. 82g, Hamburg 22299, Germany. www.anime-marathon.de.**

23–24—**Creation, 100 W. Broadway #1200, Glendale CA 91210. (818) 409-0960.** Pasadena (CA) Center. Trek.

23–24—**VulKon, Box 297122, Pembroke Pines FL 33029. (954) 441-8735.** Orlando FL. Commercial Trek event.

28–31—**NorwesCon, Box 68547, Seattle WA 98168. www.norwescon.org.** Airport Doubletree. Vance, Brom.

28–Apr. 1—**SwanCon, Box G429, Perth WA 6841, Australia. www.swancon.com.** Kings Hotel. McDouall.

29–31—**MiniCon, Box 8297 Lake St. Stn., Minneapolis MN 55408. (612) 824-5559.** Hilton. Bull, Shetterly, Berry.

29–31—**StarFury, 148a Queensway, London W2 6LY, UK. www.starfury.com.** Park Hotel Heathrow. Star Trek.

29–Apr. 1—**UK Nat'l. Con, c/o Yalow, 3242 Tibbett Ave., Bronx NY 10463. www.helicon.org.uk.** Jersey UK.

AUGUST 2002

29–Sep. 2—**ConJose, Box 61363, Sunnyvale CA 94088. www.conjose.org.** San Jose CA. The WorldCon. $160.

AUGUST 2003

28–Sep. 1—**TorCon 3, Box 3, Stn. A, Toronto ON M5W 1A2. www.torcon3.on.ca.** The WorldCon. C$200/US$135.

SEPTEMBER 2004

2–6—**Noreascon 4, Box 1010, Framingham MA 01701. www.noreascon.org.** Boston MA. Tenn. WorldCon. $100+.

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World Fantasy Award-winner **Ian R. MacLeod**, one of the most acclaimed and respected writers in science fiction today, returns next month with a major new novella that is also our May cover story, taking us across the galaxy and thousands of years into the far future for the intimate story of a child growing into a woman that is *also* a generation-spanning epic tale of love, loss, tragedy, and redemption, as the unforgettable saga of "Breathmoss" is played out against the backdrop of a world as vivid, rich, layered, evocative, and luminously strange as any the genre has seen since Gene Wolfe's *The Book of the New Sun*. This is MacLeod topping even his own previous high standard, heady praise indeed, and is sure to be one of the year's most talked-about stories, so don't miss it!

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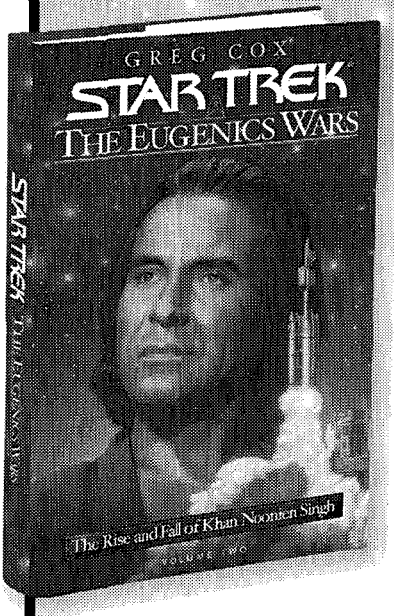

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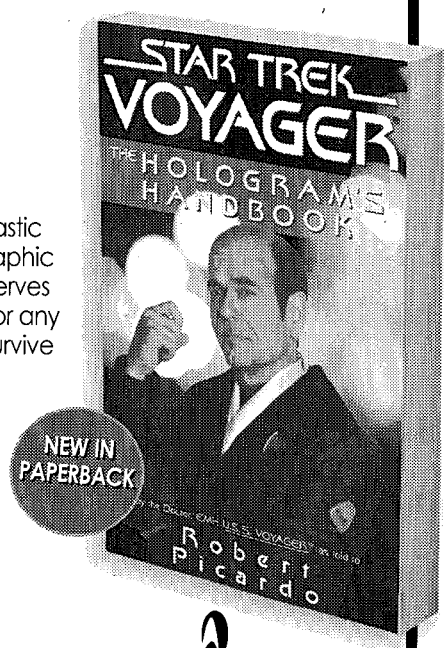

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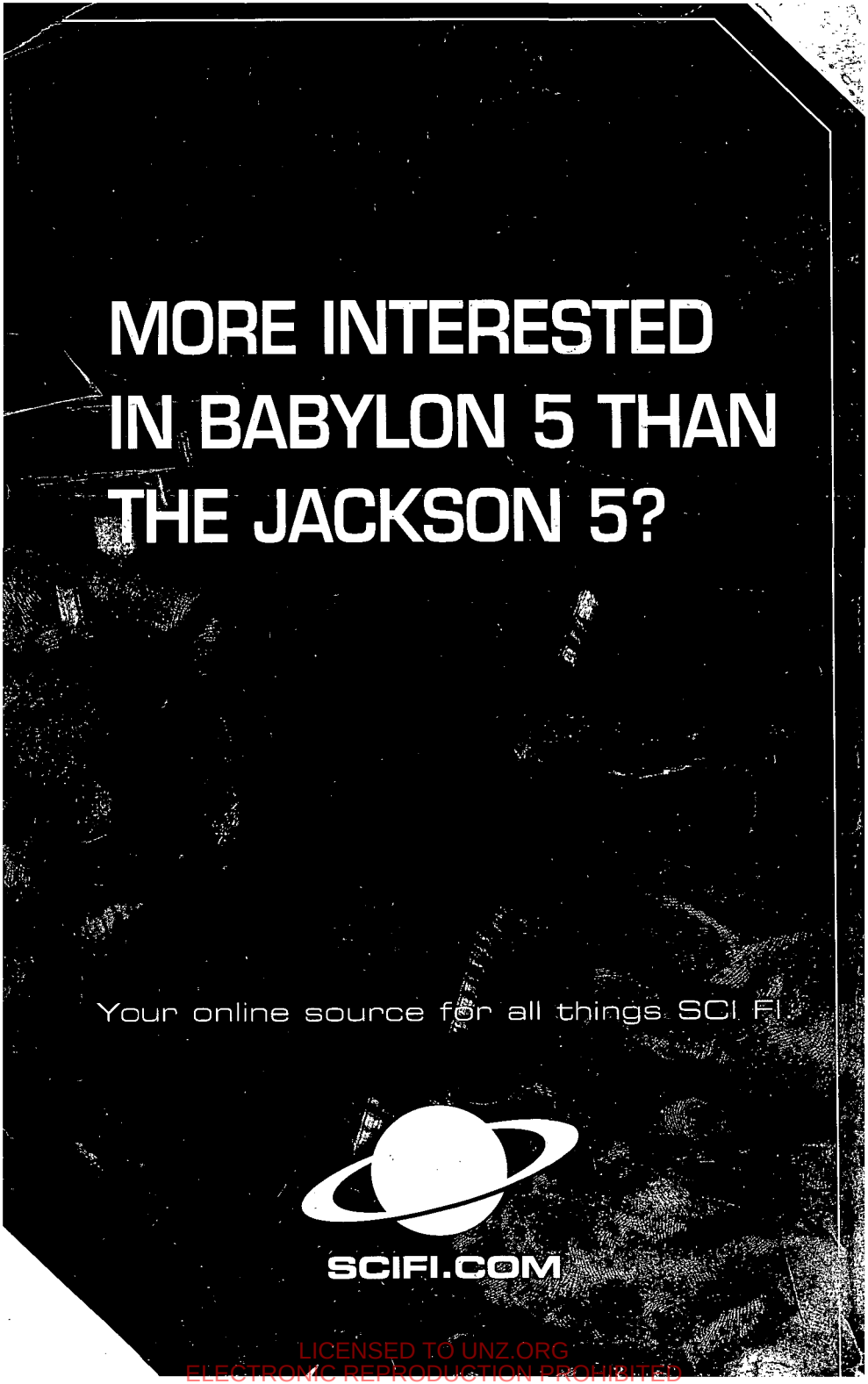

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